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# **CLOVERDALE GENERAL PLAN**

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CLOVERDALE GENERAL PLAN

MAY 1978

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## GENERAL PLAN ORGANIZATION

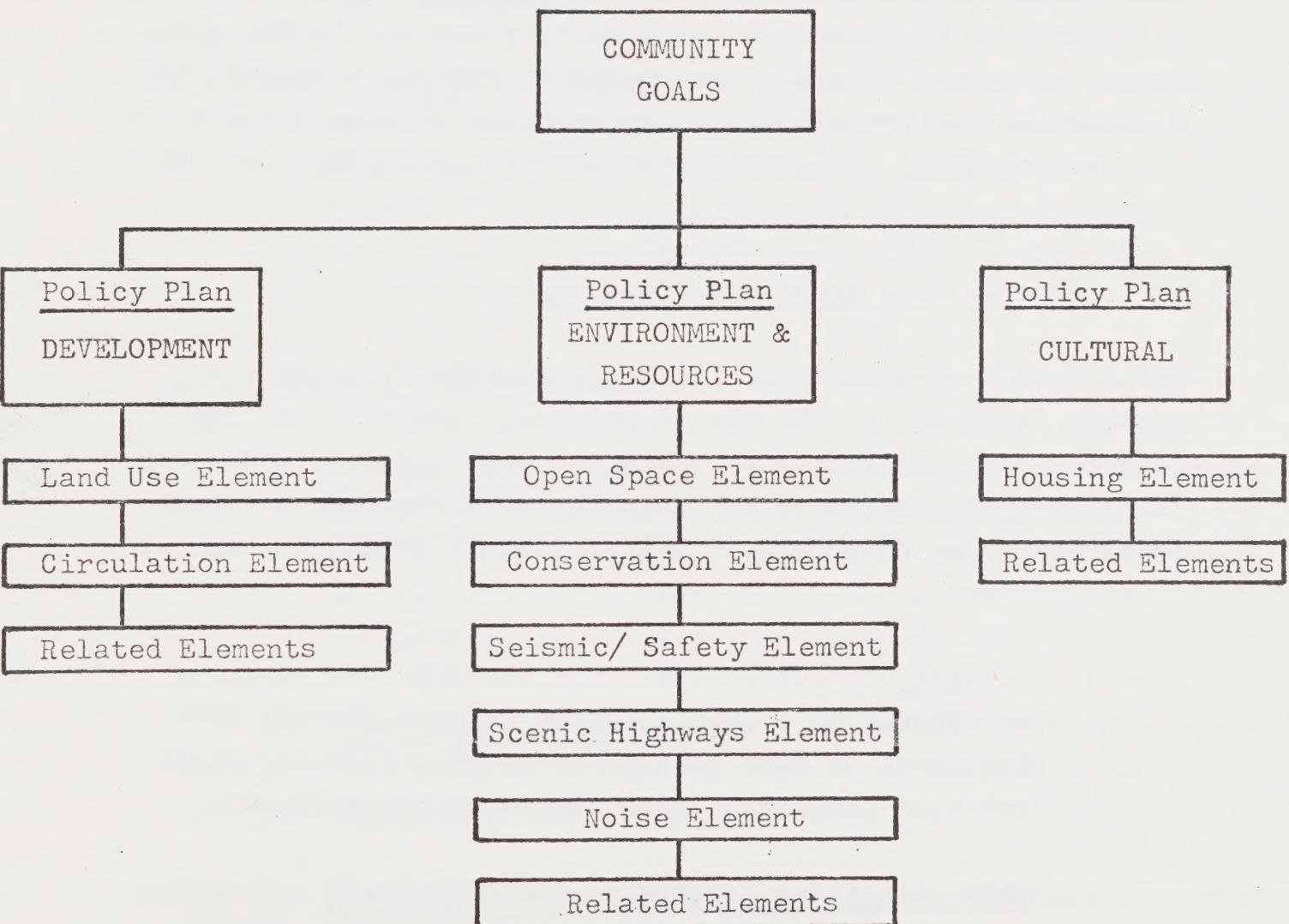
- A. INTRODUCTION
- B. AMENDING THE GENERAL PLAN

### General Plan:

- 1.0 LAND USE ELEMENT
- 2.0 HOUSING ELEMENT
- 3.0 OPEN SPACE AND CONSERVATION ELEMENT
- 4.0 SEISMIC/SAFTY ELEMENT
- 5.0 PARK AND RECREATION ELEMENT
- 6.0 CIRCULATION/SCENIC HIGHWAYS ELEMENT
- 7.0 NOISE ELEMENT
- 8.0 ENVIRONMENTAL IMPACT REPORT



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## B. AMENDING THE GENERAL PLAN

The General Plan of the City of Cloverdale provides for anticipated development through the horizon year 2000. As a result, the General Plan must be able to respond to the changing wants and needs of City residents as well as to the changing environment within which the City exists. With this in mind, a General Plan Amendment procedure has been developed to enable the City to respond to the needs of the community and the larger environment. In specific terms, the Amendment procedure establishes a mechanism for periodically incorporating citizen comment into the General Plan, the City's comprehensive directive for the future.

### B.1 General Plan Amendment Procedure

California Government Code (Title 7, Article 6) establishes minimum requirements for the adoption and amendment of the General Plan. In line with the State requirements, a General Plan amendment procedure for the City of Cloverdale has been developed. The procedure is illustrated in Exhibit A and described below:

1. Initial Contact - Applicant contacts the Planning Department to indicate desire to have General Plan Amendment or zone change initiated. Planning Staff arranges pre-application meeting with applicant.
2. Pre-Application Meeting - Planning Staff and applicant discuss applicant's request. Planning Staff explains procedure for filing General Plan Amendment/Zone Change petition and informs applicant of necessary forms and filing fees. Planning Staff also explains amendment process to applicant and answers any questions. Planning Staff will advise applicant as to consistency of the proposal with the General Plan. Further, with the applicant's concurrence the Planning Staff may

submit its recommendations concerning consistency of the proposal to the Planning Commission prior to processing the applicant's proposal. The Planning Commission may then determine the issue of consistency. With the benefit of a consistency finding the applicant may then choose to file a zone change request or a General Plan Amendment.

3. Filing of Application - Applicant files petition for General Plan Amendment/Zone Change and preliminary Environmental Description forms. Filing fees for General Plan Amendment requests and accompanying Environmental Description forms shall be by City Council resolution.

#### B.2 General Plan Amendment

4. General Plan Amendment Study - Planning Staff initiates General Plan Amendment study after receiving all General Plan Amendment petitions. The study is to be carried out within the four week period following the prescribed cut-off date for applications.
- 4A. Environmental Assessment - Planning Staff initiates study of environmental impacts of General Plan Amendment/Zone Change requests.
5. Planning Commission Study Session - Planning Commission holds study session at which time Planning Department presents preliminary analysis and recommendations regarding General Plan Amendment requests.
- 5A. General Plan Amendment Environmental Assessment - Planning Staff analyzes environmental impacts of each

General Plan Amendment request employing the preliminary Environmental Description form filed by each applicant. Once completed, the Environmental Assessment on the General Plan Amendment requests is forwarded to the Planning Commission for consideration during a public hearing.

6. Planning Commission Public Hearing - General Plan Amendment and Environmental Assessment goes before the Planning Commission for public hearing. Planning Commission may recommend approval or conditional approval, in whole or in part, or denial after receiving public comment at the hearing. Notice of the time and place of hearing is to be published at least ten calendar days before the hearing in a newspaper of general circulation published and circulated in the City.

If a General Plan Amendment request is recommended for denial by the Planning Commission, applicant has ten days to file an appeal with the City Clerk for City Council consideration. Filing fees for appeals on General Plan Amendment requests shall be established by City Council resolution.

7. City Council Public Hearing - City Council holds a public hearing to receive public comment concerning the General Plan Amendment study and Environmental Assessment. Notice of the time and place of public hearing is to be published according to the same guidelines specified for Planning Commission public hearings. At the public hearing, the City Council may approve or conditionally approve (by resolution), or deny the General Plan Amendment study and Environmental Assessment.

### B.3 Zoning Changes

Once the City Council adopts the General Plan Amendment study, the Planning Staff initiates a zone change for each amendment request within a reasonable period of time following adoption. The procedure for a staff-initiated zone change is illustrated in Exhibit A (steps 1-3 and 8-11 described in the paragraphs which follow.

8. Staff Report - Planning Department prepares a staff report analyzing zone change request and setting forth staff recommendations. Notice of a public hearing is published by Staff at least ten days prior to the hearing.
9. Planning Commission Public Hearing - Planning Commission holds public hearing to receive public comment on Zone Change request. Planning Commission may approve or conditionally approve or deny Zone Change request. Planning Commission also acts on Environmental Assessment at the same time.
10. City Council Public Hearing - City Council holds public hearing to permit public comment of Zone Change requests. City Council may approve or conditionally approve (by ordinance), or deny Zone Change request. City Council also acts on Environmental Assessment at the same time.
11. Effective Date - Zone Change request becomes effective thirty days after the second reading of the ordinance approving the zone change.

#### B.4 Timing of General Plan Amendments

Article 6, Section 65361 of the State Planning Act states that "no mandatory element of a general plan shall be amended more frequently than three times during any calendar year, which amendment or amendments may occur at any time as determined by the legislative body."

This being the case the following time schedule of filing dates for general plan amendments is recommended.

<u>Request Deadline</u>	<u>Scheduled Addition by City Council</u>
February 1	May
June 1	September
October 1	December

A general plan amendment will require approximately 15 weeks to process. This accounts for staff reviews, consistency discussion with planning commission, notification of public hearings before Planning Commission and City Council. Applicant appeals may require additional time.

Initial contact with Planning Department by applicant.

2  
Pre-application meeting with Planning Staff.

3  
Application requests filed with Planning Staff.

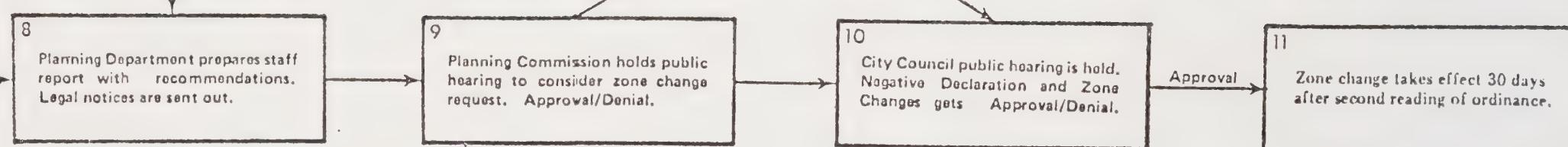
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4A  
Staff reviews environmental documents to determine environmental effects.

Zone change Environmental Assessment

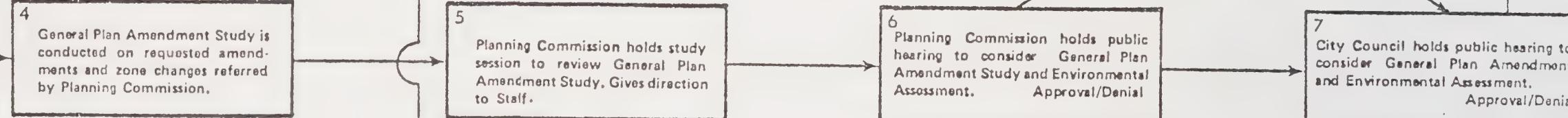
General Plan Amendment Study Environmental Assessment



#### EXHIBIT A

## GENERAL PLAN AMENDMENT PROCEDURE

5A  
Environmental Assessment of General Plan Amendment Study is prepared and posted prior to the Planning Commission's public hearing.





LAND USE PLAN  
CITY OF CLOVERDALE



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### APPENDIX

- A. CLOVERDALE SPECIFIC PLAN/COUNTY LAND USE PLAN
- B. CLOVERDALE SPECIFIC PLAN/COUNTY ZONING PLAN



## OVERVIEW

Planning can be viewed as a series of related actions and public decisions organized around and moving towards the accomplishment of objectives. Within this context the function of the Land Use Plan is to provide the framework for the application of goals and policies related to the extent and form of the future community development. As defined by the State Planning Law (Government Code Section 65302 a.), a land use plan designates the general distribution and location of the use of the land for housing, business, industry, open space, including agriculture, natural resources, recreation, and enjoyment of scenic beauty, education, public buildings and grounds, waste disposal facilities, and other categories of public and private uses of land. Furthermore, it is the role of the Land Use Plan to serve as the unifying element within the General Plan, tying together the goals, policies, and findings contained throughout. This relationship of the Land Use Plan to the other elements is best expressed by the States Guidelines for Local General Plans:

In differing degrees all of the elements of the general plan will contain policies or proposals which relate to the land use element. The land use and circulation element are almost inseparably related. The nature, routing and design of circulation facilities are among the major determinants of the form of human settlement and of the uses of the land. Conversely, land uses create demand for circulation facilities.

The safety and seismic elements provide information and policies regarding natural and man-made hazards which need to be recognized in the land use element. Together with the open space element, they define lands to be reserved in a natural state and other lands for urban purposes or for production of food, fiber or minerals.

Considered along with the conservation element, they define criteria and standards and identify programs needed to control the impact of man's activities on the natural environment.

#### 1.1 GOAL STATEMENT

##### Overall Land Use Goal:

Achieve a proper balance in the distribution and spatial relationships among the various land uses to provide a varied and healthful environment within the City of Cloverdale.

##### 1.1.1 Community Form Goal and Policies

Encourage the continued growth of the City of Cloverdale in a compact and orderly fashion to maintain an identifiable community form, discourage urban sprawl, and reduce the cost of untimely extensions of public services by:

1. Discouraging urban development outside of the city's year 2000 sphere of influence;
2. Encouraging in-fill development within the year 2000 sphere of influence;
3. Developing criteria for allowing increased residential densities within the city's sphere of influence as an incentive to achieving compact and orderly growth;
4. Encouraging a rate and spatial distribution of new growth that does not exceed the city's ability to provide necessary public services; and
5. Establishing an ongoing General Plan amendment procedure to accommodate modification of the city's urban boundary when it can be demonstrated that such modifications are in the best interests of the City of Cloverdale, that urban sprawl will not be the result of such action, and that the commitment or extension of public services can be economically justified.

##### 1.1.2 Residential Goal and Policies

To encourage and maintain a well-balanced variety of residential densities and uncrowded living conditions by:

1. Encouraging the assembly of vacant parcels into contiguous groupings so as to maximize land use efficiency; and
2. Encouraging innovative planning concepts within the city's sphere of influence such as Planned Unit Development (the use of average dwelling unit density rather than minimum lot size as a major quantitative control) as a means of providing a broader range of residential opportunities and maintaining community open space.

#### 1.1.3 Housing Goal and Policies

To provide and maintain a good quality living environment for the benefit of all economic, social, and ethnic groups who may reside within the City of Cloverdale by:

1. Providing a variety of both home ownership and rental housing opportunities in all areas of the city;
2. Encouraging the maintenance of the identifiable character of existing neighborhoods by discouraging the intrusion of incompatible housing types;
3. Encouraging the conservation and preservation of existing housing stock wherever possible; and
4. Providing an adequate level of community services, facilities, improvements and maintenance in all areas of the city.

#### 1.1.4 Community Services and Facilities Goal and Policies

To insure a full range of community facilities that provide for the general public's health, safety, and welfare, by:

1. Providing utility systems to meet projected demands;
2. Providing meeting centers for public use; and
3. Encouraging the proper planning and efficient location of facilities such as churches, nursing homes, day care centers, libraries, municipal offices, etc.

#### 1.1.5 Commercial Development and Tourism Goals and Policies

To provide for commercial development that is economically viable, attractive, well-related to other land uses, and satisfies the needs of the city's residents; and

To promote the development of services and facilities necessary to support a tourist industry by:

1. Encouraging the development and continued maintenance of the Central Business District of the City of Cloverdale between Railroad Avenue and Third Street as the retail commercial center of the community;
2. Discouraging commercial development along the proposed Freeway Bypass;
3. Encouraging, where possible, the development of planned commercial complexes as efficient centers of activity;
4. Promoting hotel and tourist-oriented commercial development in appropriate locations; and
5. Providing a planning and regulatory climate that is conducive to commercial and tourist-related land use.

#### 1.1.6 Industrial Development Goal and Policies

To seek out and encourage industrial development that will broaden the city's economic base, that is diversified, that is well-related to other land uses, and that provides local job opportunities by:

1. Providing adequate area in suitable locations for industrial development;
2. Encouraging the development of an industrial park;
3. Assuming an active coordinative roll in assisting the Cloverdale's Community Development Corporation in
  - a. seeking out prospective employers that may wish to locate in Cloverdale,
  - b. developing a capital improvement program for the extension of sewer and water facilities into the industrial area,
  - c. seeking out federal and state grant monies for public works projects through the Sonoma County Overall Economic Development Program;
4. Assuring efficient transportation access and circulation within designated industrial area; and
5. Providing a planning and regulatory climate conducive to attracting new and diversified industrial clients to the City of Cloverdale.

#### 1.1.7 Open Space and Recreation Goal and Policies

To provide for the conservation and preservation of open space for the recreational enjoyment of the residents of the City of Cloverdale by:

1. Acquiring land for parks, open space, and recreation consistant with the community Recreation Plan;
2. Developing a non-vehicular pedestrian/bicycle trail system linking parks, schools, shopping, residential and employment areas;
3. Preserving and protecting areas of significant historic, scenic, architectural and archaeological value;
4. Developing greater recreational access to the Russian River;
5. Promoting the recreational use of natural watercourses as trail systems, where compatible with adjacent land uses and private property rights; and
6. Supporting the construction and development of both the Warm Springs Dam and Sand Banks Regional Park as major recreational resources.

#### 1.1.8 Environmental Goal and Policies

To maintain an aesthetically attractive and healthful environment within the Cloverdale environs by:

1. Providing developmental controls that will assume that the scale and natural beauty of the hillside areas are maintained;
2. Preserving natural watercourses in their natural state insofar as possible;
3. Encouraging the retention of productive agricultural lands through cluster development techniques;
4. Promoting clean air standards through local regulation of point source emissions;
5. Enforcing water quality regulations; and
6. Establishing policies and programs to reduce the risk to life and property associated with seismic, fire, and flood hazards.

## 1.2 POPULATION PROJECTIONS

As indicated by Table I-1, recent projections for the Cloverdale Regional Planning Area (see Exhibit I-1) indicate a year 2000 population for the City of Cloverdale of 7,100; an increase of 97% over the current 1977 population estimate of 3,600 people. In constant average terms, this translates into a yearly increment of approximately 155 persons - fifty to sixty new dwelling units per year. The achievement of this growth rate by the year 2000 is primarily dependent upon the continued availability of developable land and housing market conditions that are somewhat difficult to anticipate at this time.

Notwithstanding the projections, the Land Use Plan for the City allows for the potential accommodation of a population of upwards of 9000 people at an indeterminate time based upon capacity for development of lands within the city's year 2000 Ultimate City Limits. As suggested by Table I-1, the Cloverdale Regional Planning Area is anticipated to undergo a proportional increase in urban population over rural population during this time due primarily to the fact that the City of Cloverdale remains alone in this northern quadrant of the county as the only entity possessing the public utility infrastructure (sewer, water, etc.) capable of accommodating the population shift.

TABLE I-1  
POPULATION PROJECTIONS  
CLOVERDALE REGIONAL PLANNING AREA

		1975	1980	1990	2000
URBAN	Cloverdale	3590	4000	5200	7100
	Geyserville	420	400	500	500
	Other Urban	640	600	500	300
	TOTAL URBAN	4640	5000	6200	7400
RURAL	Rural Residential	880	1000	1200	1400
	Other Rural	2420	2500	2600	2700
	TOTAL RURAL	3300	3500	3800	4100
TOTAL	% Rural	42%	41%	38%	34%
	% Urban	58%	59%	62%	66%
	TOTAL POPULATION	7950	8500	10,000	12,000

SOURCE: SONOMA COUNTY GENERAL PLAN, Sonoma County Planning Department, 1977

## EMPLOYMENT AND ECONOMIC DEVELOPMENT

Central to the development of a responsible land use plan is the identification of key issues that must be addressed relative to the continued economic well-being of the community, as follows:

### 1.3.1 Issues

#### a. Uncertainty of Highway 101 Freeway Bypass Construction.

Although it is optimistically assumed in the Land Use Plan that the Highway 101 Freeway Bypass to the east of the City of Cloverdale will be an eventual reality, in terms of land use decision making it presents certain difficulties. This uncertainty must be accurately translated into land use determinations that reflect the anticipated effects on future local traffic patterns and the associated impacts on the commercial business community. The amount, nature, and distribution of commercially-related land uses throughout the city have to be assessed both with and without the bypass. It is estimated that approximately 40% of all existing commercial land use is devoted to highway service and/or the traveling public (service stations, drive-in restaurants, motels, etc.). This represents a substantial portion of the commercial activity within the City of Cloverdale. In light of the anticipated 40%-50% reduction of traffic volume through the city upon construction of the proposed Highway 101 Freeway Bypass, these 17 acres of "tourist"-related commercial activities represent potentially marginal uses that may not survive a shift in traffic patterns.

#### b. Employment Base.

Historically, Clover-

dale's economic base has been closely tied to the fluctuations in the timber and lumber-related industries. However, diminishing local timber resources, regional shifts in wood product markets, and freight rates and associated shipping costs have all converged to threaten the continued expansion of employment opportunities in this sector of the

local industrial base. However, while primary manufacturing activity has declined, growth of a stable secondary wood products manufacturing sector (re-saw, milling, drying, specialty products, etc.) continues to occur. Similarly, the growth of geothermal development and geothermal related industries from the Geysers Geothermal Development Area immediately to the east of the City of Cloverdale offers new and diversified economic and employment opportunities for the community.

- c. Uncertainty and Impacts Associated with Warm Springs Dam. As a related economic development issue, the impacts associated with the proposed construction of the Warm Springs Dam to the southwest of the City of Cloverdale adds another dynamic to the list of extra-city influences affecting the future development of the community. The construction of the dam would create a major regional recreational resource within six miles of the City of Cloverdale. Spin-off impacts of such development could hasten the attraction of a retirement-oriented population, encourage the development of an enlarged tourist-based economy, and place new demands on the city infrastructure for enlargement and diversification of community services.
- d. Internal Population Shifts in Age Structure. The City of Cloverdale has experienced substantial shifts within the age structure of its population. There has been a marked increase in the proportion of elderly population (+10%) over the last decade and a comparable decrease in the proportion of schoolage population. This tends to strengthen the possibility of the community's evolution into a bedroom type, out-commuting suburban town and/or retirement enclave. While this eventuality may or may not be in the best interests to the community, the potential impacts associated with the re-enforcement of out-of-town shopping habits of commuters

and the increasingly marginal buying power of a growing fixed income retirement population are worth of consideration.

### 1.3.2 Retail Sales Activity

In an effort to provide some quantification to the strength of retail business activity within the City of Cloverdale, data have been prepared to show groups of retail businesses and reported taxable sales for the period between 1970 through 1975.

As indicated by Table I-2, the number of both retail outlets and total outlets within the City of Cloverdale has remained somewhat static, showing a growth of 7.2% and 8.6% respectively, a modest increase of approximately 1.5 new outlets per year.

Taxable sales for all outlets within the City are shown to have increased from \$4,279,000 in 1970 to \$9,667,000 in 1975, an increase of \$5,388,000 or 126%. However, the California Consumer Price Index for the same period rose from 114.9 to 158.4. This rise reflects absolute inflation of 37.9%. In terms of constant dollars, the commercial base within the City experienced a real growth of \$3,767,000, a 64% increase during the five year period.

Perhaps a better indicator of the strength of the local business community is provided by Table I-3 which indicates by type of business real growth in terms of constant 1970 dollars. The table illustrates that real growth within the retail sector of the local Cloverdale economy increased by 64% within the 1970-1975 interim. A decline in retail sales (in constant dollars) was experienced by restaurants. Drug and liquor stores along with furniture and building materials outlets enjoyed only modest growth. The enormous increase of taxable sales found for the service station category is felt to be a function of spiraling gasoline prices rather than a function of increased tourist dollars which, judging

TABLE I-2  
TAXABLE SALES BY TYPE OF BUSINESS, 1970-1975  
CITY OF CLOVERDALE

Type of Business	1970		1973		1974		1975	
	Outlets 7/1/70	Taxable* Sales	Outlets 7/1/73	Taxable Sales	Outlets 7/1/74	Taxable Sales	Outlets 7/1/75	Taxable Sales
Appliance & General Mdse.	8	409	5	634	10	833	11	892
Drug & Liquor Stores	4	420	4	501	5	558	4	589
Food Stores	6	630	7	913	7	1031	7	1148
Furniture Building Mat., Auto	8	731	7	1059	7	945	7	1050
Restaurants	21	1085	21	1345	23	1042	20	1059
Service Stations	13	352	13	2086	13	2751	13	2747
Other Retail Stores	9	175	11	357	8	339	12	307
<b>Total: Retail Stores</b>	<b>69</b>	<b>3802</b>	<b>71</b>	<b>6895</b>	<b>73</b>	<b>7859</b>	<b>74</b>	<b>8242</b>
<b>Total: All Outlets</b>	<b>116</b>	<b>4279</b>	<b>129</b>	<b>8306</b>	<b>126</b>	<b>9314</b>	<b>126</b>	<b>9667</b>

Source: California State Board of Equalization

\* Thousands of Dollar (\$1,000's)

TABLE I-3  
GROWTH IN CONSTANT DOLLARS, 1970-1975  
CITY OF CLOVERDALE

Type of Business	1970 Taxable Sales *	1975 Taxable Sales **	% Growth
Appliance & General Merchandise	409	503	+23
Drug & Liquor Stores	420	333	-20
Food Stores	630	648	+ 3
Furniture, Building Mat.,			
Auto	731	593	-19
Restaurants	1085	852	-21
Service Stations	352	1552	+341
Other Retail Stores	175	173	- 1
Retail Store Total	3802	4657	+22
Total All Outlets	4279	5462	+27

\* (\$1,000's)

\*\* 1970 Constant Dollars

by the relatively static traffic volumes for the period, seems to have remained relatively stable.

It would appear also that sluggish gains in retail sales for furniture, building materials, and auto stores suggests that such local retail sales activities may be suffering due to expanding markets elsewhere within the county.

### 1.3.3 Employment Projections

Employment forecasts for the Cloverdale Regional Planning Area (Table I-4) have been developed by the County of Sonoma. As indicated, the planning area is expected to experience a 32% increase in employment opportunities from the current estimate of 3290 to 4340 jobs by the year 2000. Within the various employment sectors, a slight decrease in agriculturally-related jobs is anticipated with most of the new job growth occurring in the Wholesale, Retail, Service and Recreation sectors.

TABLE I-4  
EMPLOYMENT PROJECTIONS  
CLOVERDALE REGIONAL PLANNING AREA

EMPLOYMENT SECTOR	1975	2000	% CHANGES 1975-2000
Agricultural/Mineral	990	710	-2
Manufacturing	970	1100	13
Wholesale	90	160	78
Retail	300	870	190
Services	470	770	64
Utilities/Transport	220	330	50
Government	240	320	33
Recreation	9	80	470
<b>TOTAL</b>	<b>3290</b>	<b>4340</b>	<b>32</b>

Source : Sonoma County General Plan, 1977.

1.4

#### CLOVERDALE SPHERE OF INFLUENCE (ULTIMATE CITY LIMITS)

The Cloverdale Sphere of Influence (Ultimate City Limits) was originally defined in May, 1976, with the adoption of the Cloverdale Specific Plan by the Sonoma County Board of Supervisors, in conjunction with the City of Cloverdale. As shown on Appendix A and B, the extent of urban expansion to the year 2000 included annexation of lands to the north, west, south, and the southeast of the existing City of Cloverdale. These boundaries provided for an approximate doubling of the city, both in area and in population (3600 people to  $\pm$  7000 people).

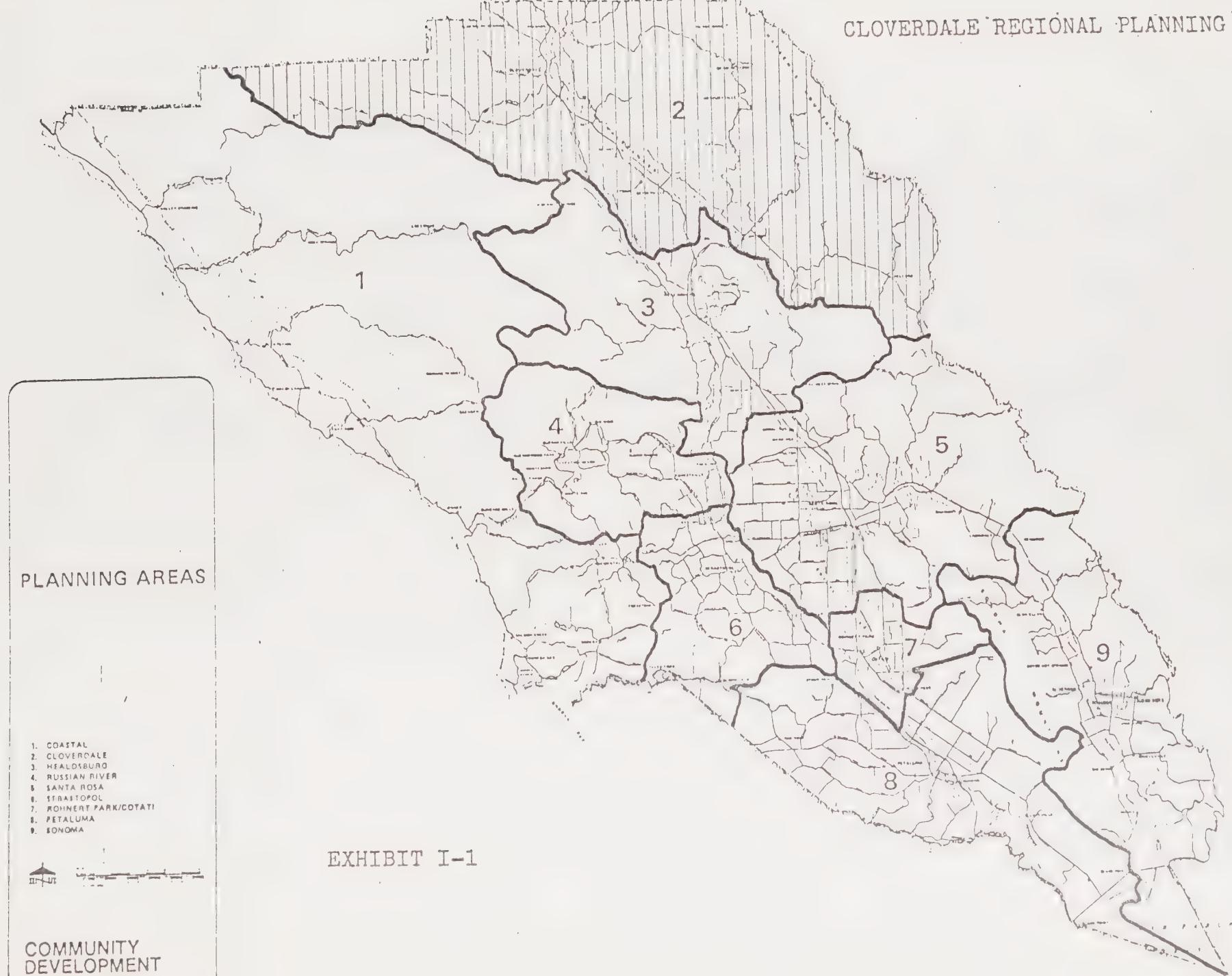
However, re-evaluation of these boundaries during the city's General Plan update process revealed that a revision of the city's "ultimate" city limits was necessary to more realistically define areas of urban potential in proximity to the City of Cloverdale. More specifically, the city's boundaries have been adjusted; a) westward to the 600 foot contour elevation to coincide with the City's Master Water Plan's service elevation (600 feet), and b) south to Kelly Road west of Cloverdale Blvd. to include existing industrial concentrations along Highway 101 and to provide an additional residential expansion area (see Land Use Plan, Exhibit 1-3). This southward expansion is justified not only in that sewer and water utility master planning recognizes the serviceability of this area and that fire and police protection will be provided east of Cloverdale Blvd. in any event, market processes and may remain as agricultural open space for an indefinite period of time.

1.5

#### CLOVERDALE GENERAL PLANNING AREA

Exhibit 1-1 illustrates the extent of the Cloverdale General Planning Area as defined by the Sonoma County Planning Department. The City of Cloverdale remains alone as the only incorporated entity within this large northern quadrant of the county.

# CLOVERDALE REGIONAL PLANNING AREA



The Cloverdale General Planning Area is characterized by a resource-based economy. Agriculture is located in Dry Creek, Alexander, and Oats Valleys and on the hillsides overlooking these valleys. Geothermal activity associated with the Geysers area dominates the eastern portion of the Planning Area. Forest and related wood products continue as a major contributor to the local economy.

Environmental considerations strongly influence the urban and rural planning conclusions for the Cloverdale General Planning Area. Flood plain, steep slopes, landslides, fire hazards, severe septic constraints, and poor vehicular access are dominant characteristics of the upland mountainous areas surrounding the valley floors. Within this planning context, the Sonoma County Board of Supervisors in April, 1977, confirmed its land use policy commitment within the Cloverdale General Planning Area setting the following priorities:

1. Preservation of agriculture
2. Management of resources
3. Population growth to be concentrated in existing communities
4. Provision for low density rural development in suitable locations

#### 1.5.1

#### Regional Land Use Issues

In relation to these policies, several relevant land use issues were also addressed. They include:

- a. Rural Residential Development. Most rural development within the Cloverdale Planning Area is projected to be accommodated by the County General Plan in the Palomino Lakes and Vineyards subdivision areas to the east of the City of Cloverdale, and in the Foothill Development Area immediately west and abutting the City of Cloverdale. Other rural development areas are anticipated within the Cloverdale Planning Area in unspecified locations at densities of between 5 to 10 acres per dwelling unit.
- b. Impacts of Lake Sonoma. Warm Springs Dam is anticipated to have a significant impact upon both the Cloverdale and Healdsburg Planning Areas and upon Sonoma County as a whole,

not the least of which will be the pressure for recreationally-related residential development. The County General Plan does not designate any specific areas for such development, but does recognize the opportunity for low density development to occur in concentrations in and around the cities of Cloverdale and Healdsburg. However, large scale development along access routes to Lake Sonoma (Kelly Road) are not encouraged by the County Plan because of agricultural, environmental, resource, and transportation system considerations.

## 1.6 CLOVERDALE AREA OF PLANNING CONCERN

The Cloverdale Area of Planning Concern refers to an area of primary public policy concern lying within a six-mile radius of the City of Cloverdale that requires close city/county liaison on all land use, circulation, highway development, and resource development (timber, geothermal, gravel, etc.) related issues. Within this area, an automatic referral process between the County of Sonoma and the City of Cloverdale should be established and maintained relative to the issues outlined above.

### 1.6.1 Areas of Future Urban Interest

Within the Cloverdale Area of Planning Concern as discussed above, areas of future urban interest have been specifically defined. As shown on Exhibit 1-2, these areas are recognized as having potential for direct future involvement by the City of Cloverdale inclusive of the possibility of annexation.

These areas include:

- a. Dutcher Creek Road Environs. This area presently lies outside of the proposed Ultimate City Limits of the City of Cloverdale south of Kelly Road, straddling both sides of the Highway 101 corridor. This area is presently characterized by mixed light industrial, heavy commercial, rural residential, and agricultural land use. This land use is recognized as such in the Cloverdale Specific Plan (see Appendix A and B).

# CLOVERDALE

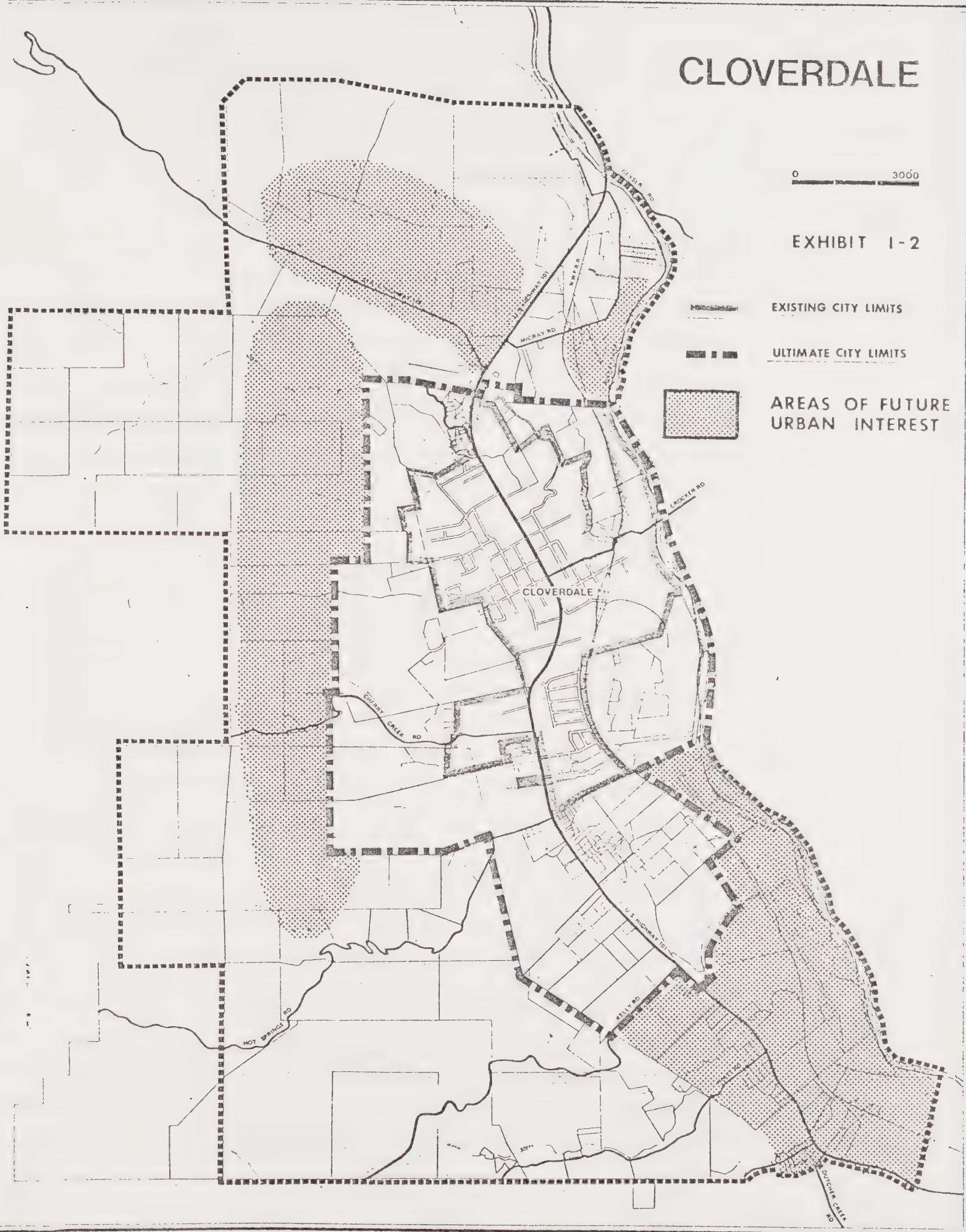
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EXHIBIT 1-2

EXISTING CITY LIMITS

ULTIMATE CITY LIMITS

AREAS OF FUTURE URBAN INTEREST



Annexation of part or all of this area by the City of Cloverdale may be desirable at some future date when and if extensions of public sewer and water appear economically feasible and, most importantly, a mutual willingness both by the city and property owners in the area exists to merit such annexation. This area represents a key area necessitating close liaison and project referral between the County of Sonoma and the City of Cloverdale. Clearly, premature development and/or development of potentially incompatible uses in this area may prove detrimental to Cloverdale's long-range economic development. Therefore, it is in the city's best interest to respond and influence all land use proposals in this area in order to define alternatives relative to future urban commitments and associated impacts, to avoid unwarranted sacrificing of the economic benefits of compactness within the city's year 2000 growth line.

- b. Western Hillside Areas. The Ultimate City Limits of the City of Cloverdale, as presently conceived, includes those lands to the 600 foot contour elevation. However, the potential for limited hillside development above this elevation may exist and may at some future point in time become economically feasible for annexation when and if extension of urban utilities becomes practical. As such, this represents another area of future urban interest necessitating close liaison between the County of Sonoma and City of Cloverdale to maintain long-term planning and development options.
- c. Russian River/McCray Road Area. This area is recognized as an area of future urban interest primarily as a potential recreational resource in connection with the development of the Wright Property as a Riverfront Park by the City of Cloverdale. Inclusion of these lands along the river to McCray Road would provide not only for expansion of the recreational opportunity and utility of the Wright Property, but for additional access to such facility via McCray Road.

d. Oat Valley. Oat Valley is included relative only to the future possibility of extending "lifeline" water service to distressed households. The area is not anticipated to be included within the ultimate city limits of Cloverdale, as it is recognized as an area of prime agricultural resource that is physically and culturally segregated from the city. County land use and zoning regulations and policies will be relied upon to retain Oat Valley as economically viable agricultural open space, recognizing that some rural development clusters may occur.

#### 1.7 LAND USE PLAN

The Land Use Plan proposals contained herein provide for the adequate accommodation of the projected population and employment growth within the City of Cloverdale to approximately the year 2000. The Plan (Exhibit 1-3) serves as the mapped synthesis of land use related issues and policies as contained primarily in the Circulation, Open Space, and Conservation and Recreation and other elements of the General Plan. The Land Use Plan has also been constructed to provide for the parcel specific elaboration of land use expectations and, as such, represents a Specific Plan for the City of Cloverdale. This, in turn, provides for clear interpretation and facilitates implementation of the plan through establishment of parcel specific consistency of the City's Official Zoning Map.

Through the recognition of a realistic urban growth boundary, the City of Cloverdale's land use proposals are intended to achieve a basic objective of providing suitable opportunity for the city to grow in an orderly, compact fashion through the horizon year of 2000. A firm policy commitment to encourage annexations within the area proposed for urban expansion will insure that traditional urban sprawl does not occur in the immediate Cloverdale environs through leapfrog development and careless extension of public facilities and fiscal resources. Rather, new development is anticipated to

be brought into the existing development fabric of the city with a maximum amount of physical and social continuity.

However, while orderly compact growth for the City of Cloverdale is the primary objective of the Land Use Plan, it is also the expressed policy of the city to provide for the accommodation of additional urban land when, and if, it is evidenced that such annexations would provide development opportunities for new and appropriate land uses. It is envisioned that all such presently unforeseen annexations would - on their own merits - be clearly justifiable extensions of the City of Cloverdale based upon their physical, social, and/or economic relationship with the city.

#### 1.7.1 Land Use Categories

The Land Use Plan for the City of Cloverdale classifies all lands within the following categories:

##### RESIDENTIAL

Hillside Residential	:(Density to be determined)
Low Density Residential	:(0.2 to 1.0 units per gross acre)
Single Family Residential	:(4.0 to 6.0 units per gross acre)
Medium Density Residential	:(6.0 to 15.0 units per gross acre)
High Density Residential	:(16.0+ units per gross acre)
Planning Reserve	:(4.0 to 6.5 units per gross acre)

##### COMMERCIAL

General Commercial
Limited Commercial
Thoroughfare Commercial
Service Commercial

##### PROFESSIONAL OFFICE

##### MIXED DEVELOPMENT

##### GENERAL INDUSTRY

##### PUBLIC, QUASI-PUBLIC, and INSTITUTIONAL

Hillside Residential. The Hillside Residential land use category represents approximately 510 acres within the City of Cloverdale's Ultimate City Limits. This area is generally defined as lying west of the Foothill Boulevard Plan Line and

delineated generally by the 400 foot contour elevation at the base of the hillside and the 600 foot contour elevation (water service level). The average cross slope throughout the entire area approximates 25%. With the exception of several residences, this entire area is presently undeveloped with no improved road access or public utility services (sewer, water, etc.) linking it with the City of Cloverdale. Furthermore, in the absence of anything but general physical data and perceived characteristics, the true development potential of this hillside area is unknown and, in the absence of more thorough data, the assignment of precise residential densities premature. As a result, the following course of action is proposed:

- a. The existing county land use and zoning designations for these hillside areas - a density of approximately one dwelling unit per seven acres - be maintained as an effective holding zone, and that the City of Cloverdale either:
  - b. Conduct a specific hillside study of this area to determine its true development potential and assign precise land use densities and controls at that time. Such a study should include:
    - Preparation of topographic mapping at a minimum five foot contour interval ;
    - Identification of suitable areas for individual building sites and/or cluster areas;
    - Preparation of geologic and soils engineering data;
    - Identification of areas of permanent open space;
    - Identification of suitable and aesthetically sensitive roadway alignments that would provide for an integrated hillside circulation system;
    - Development of a resource development and/or management plan for the net residual hillside open space areas; or
  - c. Require as a condition of annexation by the City of Cloverdale that the applicant conduct a prezoning study inclusive of the above study items to determine the environmental

suitability of a particular proposal and its satisfactory relationship with the developmental goals and policies of the City of Cloverdale.

It is also recognized that in several cases the delineation of the 400 foot contour elevation splits parcels between the Hillside Residential and Planning Reserve land use categories. In these cases, development proposals in Planning Reserve Areas shall be considered on an overall parcel basis, with proposed densities and design reflecting the development policies of the City of Cloverdale.

Low Density Residential. The Low Density Residential land use category comprises approximately 265 acres within the city's Ultimate City Limits. Densities within this area are anticipated to range between 0.2 to 1.0 dwelling units per gross acre. This category is applied to those areas where existing parcelization and development patterns, physical constraints and access problems all contribute to the determination of the number of units that should be located on a particular site. This is best exemplified by the Vista View and Cloverdale Crest subdivisions. The area north of Kelly Road and west of Foot-hill Boulevard plan line also recognized as Low Density residential, as ultimate densities will probably reflect terrain constraints.

result of terrain constraints.

Locational criteria relevant to this land use category include:

- a. areas where public facilities and services are utilized to capacity or above and expansion is not possible or desirable;
- b. areas subject to natural hazards such as seismic activity, flood potential, problem soils, or topographic limitations;
- c. areas adjacent to natural reserves, parks, and recreational
- d. areas where undivided acreage is held under common ownership.

Single Family Residential. This category represents approximately 265 acres and is applied to those lands within

the City of Cloverdale that are either presently developed or are anticipated to be developed to a residential density of 4 to 6 units per gross acres. The distribution of this classification includes the Tarman/Hillview neighborhood to the southeast, the Cherry Creek Road/Foothill Boulevard area to the southwest, the mature residential area of west central Cloverdale generally defined by Jefferson Street, First Street, and Hillside Drive/School Street, and the area located to the northeast of the city above Cloverdale Creek (Vista View, Shahan Drive, and Clovercrest Drive). The intent of the application of the Single Family Residential land use classification to these areas is to recognize the existing single family residential settlement within these neighborhoods and insure that the in-fill growth of new residential development within these areas is accommodated in a compatible fashion.

Locational criteria relative to this land use category include:

- a. that it is within neighborhood bounded by the arterial street system;
- b. that neighborhood facilities such as schools and parks are convenient to the area; and
- c. that the area is served by convenient commercial development.

Medium Density Residential. This land use category comprises approximately 62 acres and is characterized by a density range of 6 to 15 units per gross acre. This type of residential use is designed to encourage and concentrate the development of housing of a more intense nature than single family detached dwelling units: duplexed, triplexes, apartments, condominiums, and townhouse developments. Two localized exceptions are the Seven Palms and Briarwood Mobile Home Parks, which are included in this category as a means of reflecting zoning consistency. With reference to the Land Use Plan, it can be seen that the bulk of this land use classification is applied to those lands found in the immediate central Cloverdale vicinity defined generally by Jefferson and East Streets to the west and east, and Fourth and Lake Streets to the north and south. Characteristically, the housing stock within this

area is representative of "older Cloverdale", characterized primarily by single family residences of distinctive architecture, wide streets, and mature landscaping with some two-family and multi-family construction dispersed throughout.

It is the expressed interest of the City of Cloverdale in its administration of this land use category to recognize the distinctive character and ambiance of older neighborhood areas as a resource worthy of protection. Accordingly, proposals for higher density development or redevelopment should be designed and landscaped sensitive to the maintenance of the surrounding residential aesthetic.

Locational criteria relative to this land use category include:

- a. locate in close proximity to commercial and office areas, educational, institutional, cultural, and other public facilities (parks, transportation routes);
- b. should serve as a buffer or transition area between single family residential (or low density residential) and more intense land uses, where possible.

High Density Residential. Approximately 41 acres are devoted to this land use category characterized by a density range in excess of sixteen units per gross acre. Although most types of housing units and spatial arrangements would be permitted subject to the density standards, the most typical housing type envisioned is that of apartments. Those areas designated for Multi-Family Residential development are located generally in south central Cloverdale in the vicinity of Healdsburg Avenue, South Street, and Cloverdale Boulevard, and in the area north of Main Street along Cloverdale Creek. It is felt that these locations will assist not only in satisfying the local need in the rental market, but that they will provide close-in proximity to the local downtown shopping area as well as immediate access to the Highway 101 Freeway Bypass.

Locational criteria relative to this category include:

- a. in or adjacent to areas of intensive land use;
- b. near major transportation routes and highways;

- c. in proximity to commercial areas and other activity areas; and
- d. near or highly accessible to employment areas.

Planning Reserve. In an effort to recognize the unique opportunity for new and innovative residential development within the urban expansion area of the City of Cloverdale, a Planning Reserve land use classification has been created. This classification reflects a density range of 4.0 to 6.5 units per gross acre, the primary intent being to maintain an overall density throughout this area comparable to that of single family development.

More specifically, the large contiguous land holdings within the urban expansion area of the city to which this designation is applied represent a developable land resource base unconstrained by any predetermined street grid network (with the exception of the Foothill Boulevard plan line) or unique physical characteristic to which future developmental design must adhere. The incentives posed through the availability of the relatively higher residential densities encourage building economies in terms of land and construction costs through the use of planned development design. The benefits to the community include not only a wider range of affordable home ownership and rental opportunities for the city's future residents, but also a wider range of physical and social amenities in terms of common open space, recreation centers, swimming pools, bikeways, pedestrian walkways, and landscaping.

In terms of implementation it is intended that the upward end of the density range approaching 6.5 units per gross acre be awarded to those applications for development that incorporate superior open space and recreational opportunities, a truly representative distribution of affordably priced housing, and excellence of planning, architecture and landscape design. Firm application of the community's goals and policies through permit processing and design review stages of such development will

insure the realization of these objectives.

With further reference to the Land Use Plan, the following elaboration by Planning Reserve is offered.

Planning Reserve Area 1. Centrally located within the community, this 80 acre area is anticipated to be eventually annexed by the City of Cloverdale. Prime soils and natural watercourse sensitivities are evidenced on-site; otherwise there appear to be no sensitivities evidenced on-site, there appears to be no apparent physical constraints to development. Access to the property is assured by both Foothill Boulevard and the proposed extension of South Street to the west. Higher density residential clusters may be considered in the southeasterly portion of the site where it abuts Healdsburg Avenue. Since it is anticipated that the South Street extension will provide a major access route to the Railroad Avenue/Bypass interchange, development design considerations should include means of minimizing the amount of access and egress points onto South Street to insure smooth and efficient circulation flow. Similarly, to insure traffic safety and maximize circulation flow along Foothill Boulevard, lotting patterns which back onto the right of way should be considered.

Planning Reserve Area 2. This area contains approximately 212 acres of potential residential expansion area to the immediate south and west of the present City limits. Although not characterized by a prime soil base, the area in question reflects approximately 55 acres of producing vineyard with the remaining acreage devoted to grazing and non-irrigated pasture. Topographically the area is flat to gently rolling and presents no apparent engineering constraints. In addition to the obvious agricultural sensitivities of the site the major environmental feature is that of Porterfield Creek which traverses the area from west to east.

Access to Area 2 will be primarily by Foothill Boulevard, South Cloverdale Boulevard, and Hot Springs Road. The Land Use Plan also indicates a proposed new roadway that

would serve as an east west link between Foothill and South Cloverdale Boulevards. As previously suggested a lotting pattern of direct access onto both Foothill and South Cloverdale Boulevards should be discouraged so as to enhance traffic circulation flow along these corridors.

Within the context of a comprehensive development proposal for all or part of this Planning Reserve Area, non-residential land uses may be considered along South Cloverdale Boulevard. Similarly, light industrial development integrated in a sensible and sensitive fashion compatible with existing and proposed development, may also be considered in the extreme southeast quadrant of the area where it abuts the existing industrial area to the south (MGM Brake, etc.).

References above to commercial and/or industrial development in those areas mentioned above does not reflect a precise land use committment by the City of Cloverdale. Rather, the inclusion of these commercial/industrial land use considerations represents a policy recognition only, and that such development may be acceptable at some future point in time, dependent upon the individual merit of the development proposal.

General Commercial. This category comprises approximately 25 acres and is intended to include all types of retail and personal service stores that are usually associated with downtown shopping areas and smaller neighborhood satellite shopping areas. As applied to the City of Cloverdale, this land use classification defines the central business district of the city as bounded generally by Third Street and Railroad Avenue to the north and south, and Main and Commercial Streets to the east and west, as well as a smaller commercial area in the southerly extreme of the city in the vicinity of Brookside and Hillview Drives.

Limited Commercial. This designation reflects those areas located primarily along North Cloverdale Boulevard that through a combination of adequate parcel size, existing development and thoroughfare access lend themselves to a mix of limited commercial

uses and/or residential development. The intent of this land use is to acknowledge a limited range of commercial expansion in these areas but of a less intensive nature than that found in other commercial districts.

In recognition of the deep lots existing along much of the easterly frontage of North Cloverdale Boulevard the Land Use Plan indicates the first 200 feet of these parcels to be most suitable for commercial activity while reserving the potential for high density residential development to the rear, although the extent of either use may vary. The administration of the Limited Commercial/High Density residential "split" category along this frontage should provide flexibility in accommodating future development proposals for both commercial and/or residential uses with land use compatibility as the primary criterion.

Thoroughfare Commercial. Areas classified as Thoroughfare Commercial are in the general proximity of the Freeway Interchange in south central Cloverdale and at the northerly extreme of the city along North Cloverdale Boulevard in the area between Third Street and Shahan Drive. These areas total approximately 46 acres. The primary intent is to provide suitable locations for commercial and recreational establishments catering to the specific needs of the touring public.

Service Commercial. The intent of the Service Commercial land use classification is to provide suitable locations within the City of Cloverdale for heavier commercial and light industrial uses without nuisance features that are found to be generally compatible with surrounding land uses. It is the policy of the City of Cloverdale that the characteristics of all uses within this category shall be similar in nature to those evidenced by the service commercial development located on South Cloverdale Boulevard north of Cherry Creek Road, the exemplary performance standards of which are incorporated here by reference (City Ordinance #266).

Professional Office. This land use classification provides suitable areas within the City of Cloverdale for the accommodation of professional, administrative, and offices of a semi-commercial nature. As defined on the land use plan, the Professional Office category comprises approximately 12 acres and is applied to those lands abutting the central business district fronting on Commercial and Main Streets, along the westerly frontage of North Cloverdale Boulevard north of Third Street, and at the intersection of Foothill Boulevard and Cherry Creek Road (Veterinarian Clinic). In that area north of Fourth Street, along the west side of North Cloverdale Boulevard, it is the expressed policy of the City of Cloverdale that the distinctive quality of much of the older housing stock in this area be recognized and retained as a desirable aesthetic along North Cloverdale Boulevard. As such, any conversion and/or facade alteration of existing residential structures in this area should be performed in such a way so as to broadly reflect the architectural characteristics and relationships of the area.

Mixed Development. Approximately eleven acres of contiguous, undeveloped land in the immediate vicinity of the Railroad Avenue/Freeway Interchange is designated for Mixed Development. The generality of this land use designation is felt appropriate due to the unique characteristics and development potential affecting this area.

The range of land uses allowable within this designation include:

- Retail and specialty commercial
- Office - professional
- Hotels and motels
- Residential
- Service commercial/light industrial
- Public facilities
- Open space and recreational facilities

Relative to the administration of this land use category, it is the expressed intent of the City of Cloverdale to accommodate

the development of the area only in a comprehensive and coordinated fashion rather than through piecemeal development. An overall development plan for the entire area should be developed to guarantee the harmonious and functional relationship of the proposed land use(s) for the property with that of the surrounding development pattern.

Major development considerations include and are not limited to:

- Visual Aesthetic. The development of this area will be highly visible from both Cloverdale Boulevard as well as to the traveling motorist along the Freeway Bypass. As such, the architectural, structural, and visual relationships the development should relate in an orderly and integrated fashion. Adequate landscaping should be provided throughout.
- Circulation. An efficient circulation system that unifies the development and minimizes access and egress conflicts should be addressed. Adequate off-street parking facilities should be provided. It is also recommended that the proposed extension of Clark Avenue through the property to South Avenue be treated as a flexible design element in the development of the property.
- Residential Buffer. All development proposals for the site should insure that the off-site impacts (noise, glare, odor, dust, etc.) upon the existing residences along Alter Street are mitigated.

General Industry. Accounting for approximately 400 acres, this land use classification includes lands for the expressed accommodation of both heavy and light industrial uses and industrial park development in an area free from intrusion by other incompatible land uses (residential, etc.). The area shown on the land use plan as General Industry is located south of Lake Street and to the immediate east of the proposed Highway 101 Bypass, and along the westerly frontage of South Cloverdale Boulevard in the general vicinity of the Kelly Road interchange. This area is in excellent proximity to freeway and railway access and is planned for full public facility

services. All industrial uses that produce minimum emissions of smoke, dust, fumes, vibrations, and noise are considered desirable. Typical uses would include research and development; electronics; office-type industrial; distribution; warehousing; manufacturing; etc.

Public, Quasi-Public, and Institutional. This category comprises approximately 145 acres and includes publicly-owned, quasi-public and institutional facilities that are necessary to support the community by providing educational and cultural opportunities. Existing and proposed park and recreation areas are also included.

LAND USE PLAN IMPACT ANALYSIS

Tables I-5, I-6, and I-7 provide a summary quantification of the land use population, density, and utility impacts associated with peak development under the proposed Land Use Plan for the City of Cloverdale. The potential for new growth is dramatic.

Briefly, the corporate limits of the City of Cloverdale will increase 157% from 910 to 2340 acres upon implementation of the Land Use Plan. Depending upon the density range of future residential development, the population of the City can be expected to increase from the current 1977 estimate of 3770 to between 9200 and 13250 people - an increase of 244% and 351% respectively. Similar proportional increases in school enrollment, traffic generation, water demand, and sewage generation will also result. It is important to remember that these population figures represent peak land use capacity conditions rather than population projections to a specific time certain. Population projections in Table I-1 indicate a year 2000 population of 7100 people, an increase of 188% over current population levels. Only constant monitoring of the City's growth will substantiate whether or not the City of Cloverdale will meet or surpass these projections. The population capacity figures, on the other hand, provide a long range decision making yardstick from which to gauge future capital improvements.

Perhaps an even more important concern is the impact of such growth upon the maintenance of the quality of life, sense of community, and "small-townness" presently associated with the City of Cloverdale. These are the very attributes that distinguish the city as a desirable place to live. Only continual diligent administration and continual refinement and re-evaluation of the land use policies of the community will assure the growth of the city in a manner consistent with the present scale and urban ambience.

TABLE I-5  
EXISTING LAND USE  
CITY OF CLOVERDALE, 1977

LAND USE CATEGORY	ACRES	DWELLING UNITS	HOUSEHOLD POP.	SCHOOL POP.	TRAFFIC	WATER DEMAND (000's Gal.)	SEWAGE (000's Gal.)
Residential	325	1450	3770	507	12,325	471	377
Commercial	43	-	-	-	-	-	-
General Industry	32	-	-	-	-	-	-
Public, Quasi-Public, Institutional	132	-	-	-	-	-	-
Streets	140	-	-	-	-	-	-
Undeveloped	245	-	-	-	-	-	-
<b>TOTAL</b>	<b>910</b>	<b>1450</b>	<b>3770</b>	<b>507</b>	<b>12,325</b>	<b>471</b>	<b>377</b>

Household Population = 2.66 persons per dwelling unit  
 School Population = .35 children per dwelling unit  
 Traffic = 8.5 average weekday trip-ends per dwelling unit  
 Water Demand = 125 gallons per day per person  
 Sewage = 100 gallons per day per person

TABLE I-6  
SUMMARY IMPACTS OF PROPOSED LAND USE PLAN  
CLOVERDALE ULTIMATE CITY LIMITS AT PEAK CAPACITY

LAND USE CATEGORY	ACRES	DWELLING UNITS	HOUSEHOLD POPULATION	SCHOOL POPULATION	TRAFFIC	WATER DEMAND (000's Gal.)	SEWAGE (000's Gal.)
Hillside Residential	510	-	-	-	-	-	-
Very Low Density Res.	265	265	662	92	2,915	82	66
Single Family Res.	313	1,252-1,878	3,130-4,695	438-657	13,146-19719	391-541	313-469
Medium Density Res.	62	372-930	818-2,046	130-325	2,976-7,440	102-255	81-204
High Density Res.	41	656- 230	1,443-2,706	230-430	3,870-7,257	180-338	144-270
Planning Reserve	292	1,260	3,150	1,140	11,970	393	315
RESIDENTIAL SUB-TOTAL	1,433	3,805-5,563	9,203-13,259	1,330-1,944	34,877-49,301	1,148-1,617	919-1,324
General Commercial	25	-	-	-	-	-	-
Limited Commercial	9	-	-	-	-	-	-
Thoroughfare Commercial	35	-	-	-	-	-	-
Service Commercial	10	-	-	-	-	-	-
Mixed Development	11	-	-	-	-	-	-
Professional Office	12	-	-	-	-	-	-
COMMERCIAL SUB-TOTAL	104	-	-	-	-	-	-
General Industry	1400	-	-	-	-	-	-
Public, Quasi-Public, Institutional	178	-	-	-	-	-	-
Freeway Bypass	175	-	-	-	-	-	-
T O T A L	2340	3,805-5,563	9,203-13,259	1,330-1,944	34,877-49,301	3,314-4,667	919-1,324

Household Population:

V.L.D. Res.	= 2.5/du	Water Demand:	Water Demand:
Single Family	= 2.2/du	11.0 trips/du	Residential = 125 gal./capita/day
Medium Density	= 2.2/du	10.5 trips/du	Non-Res. = estimate based upon
High Density	= 2.2/du	3.0 trips/du	1977 ratio of residential/
Planning Reserve	= 2.5/du	5.9 trips/du	non-residential water
		9.5 trips/du	consumption.

Sewage:

100 gal./capita/day

TABLE I-7  
DENSITY CHARACTERISTICS  
EXISTING VS. ULTIMATE CITY OF CLOVERDALE

	EXISTING CITY	ULTIMATE CITY	CHANGE	
			#	%
Acres	910	2340	1430	257
Population	3770	9875-17660	6105-13890	262-468
Population/Acre	4.1	4.2-7.5	.1-3.4	2-82
Dwelling Units	1450	3713-6639	2263-5189	256-458
Dwelling Unit/Acre	1.6	1.6-2.8	0-1.2	0-75

# CLOVERDALE STUDY

Sonoma County  
Planning Department

0 3000

## Land Use Plan

ULTIMATE CITY LIMITS •••••

EXISTING CITY LIMITS -----

STUDY AREA BOUNDARY -----

PROPOSED STREET - - -

COMMERCIAL 

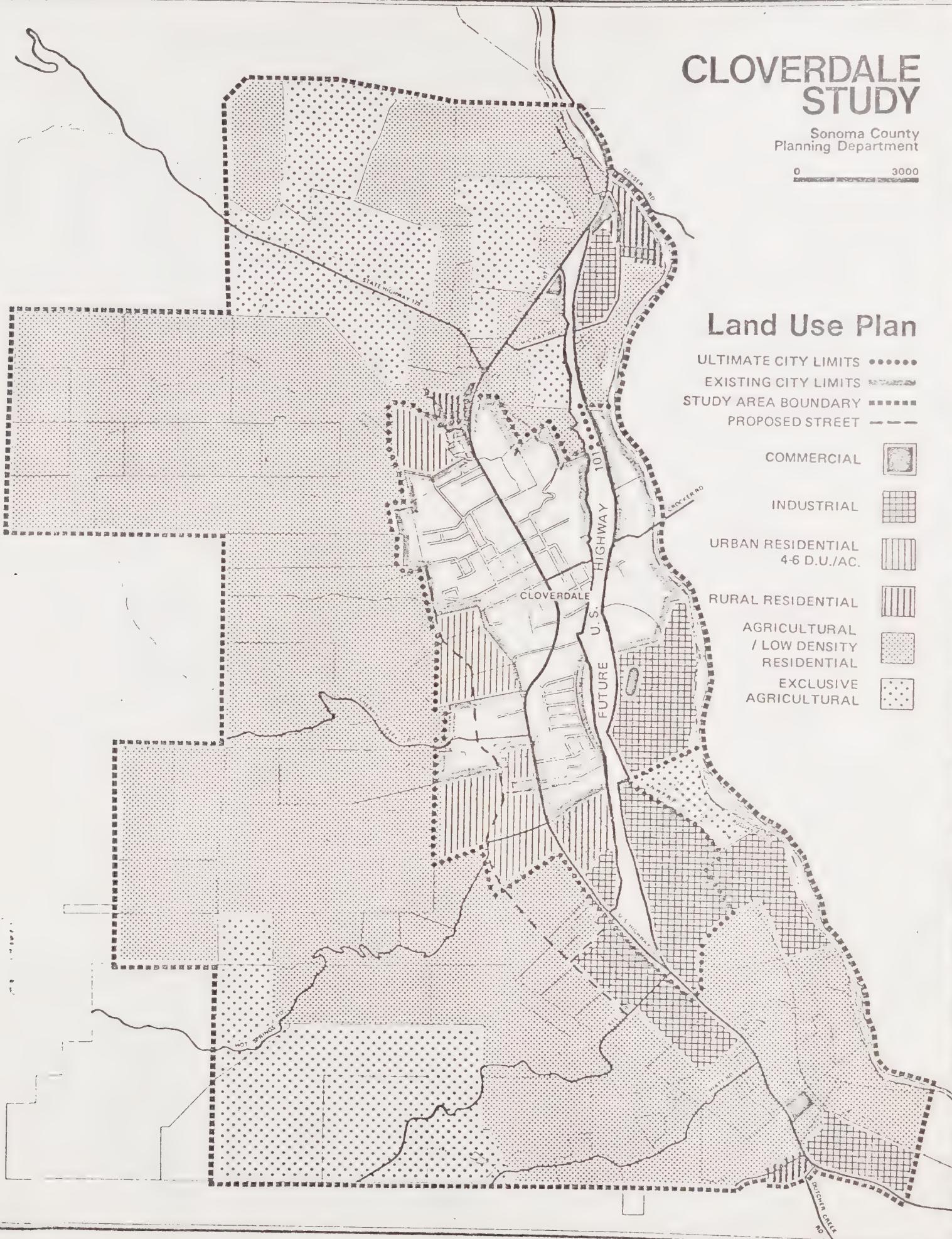
INDUSTRIAL 

URBAN RESIDENTIAL  
4-6 D.U./AC. 

RURAL RESIDENTIAL 

AGRICULTURAL /  
LOW DENSITY  
RESIDENTIAL 

EXCLUSIVE  
AGRICULTURAL 







2.0  
HOUSING ELEMENT  
CITY OF CLOVERDALE



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## OVERVIEW

This Housing Element expresses the City's public policy relative to the provision of adequate housing for its current and potential population. It also serves as a decision-making tool which quantitatively defines the scope of housing quality and inventory consistent with Government Code Section 65302(e).

Discussion deals first with a summary of the demographic housing, income, and construction characteristics of the City of Cloverdale in an effort to define the scope of the current housing situation in terms of present need and future demand. Secondly, the Housing Element addresses the public policy response, in terms of a realistic action program to implement the community's housing goals, and objectives via the General Plan. The Demographic Support Data appears as the Appendix to the Housing Element.

MAJOR ISSUES AND FINDINGS

The following is a summary of major findings and identifies central themes that assist in the utilization and interpretation of the raw statistical data base.

Demographic

1. Age Composition. Between 1960 and 1975 the City of Cloverdale has experienced a proportional increase of its elderly population (65 years and over) from 8% to 17%. Conversely, the city's pre-school (0-4) and school age (5-14) populations have decreased proportionately during the same period from 34% to 23%.
2. School Enrollment. The Cloverdale Unified School District has experienced a constant decline in enrollment from 1418 to 1195, a decrease of 16%, during the period 1970 through 1977.

Economic

1. Housing Value. Regional summaries indicate enormous increases in median housing values and rents between 1970 through 1975:

	1970	1975	% Increase
Median Value	\$27,572	\$44,864	+62.7%
Median Rent	\$137.00	\$221.00	+61.3%

Based on these trends, median value and rent could double in approximately 7.9 years to \$91,205 and \$444 respectively.

2. Median Income/City of Cloverdale (1975)

Median Household Income      \$8900

Median Per Capita Income      \$3400

3. Housing Affordability. The disparity between income and rent is widening rapidly. The expenditure of 35% of a median 1975 gross income of \$8,900 yields approximately \$260/month for housing rent (approximate mortgage payment on a \$30,000 house). This being the case more than half of all Cloverdale households are unable to afford housing at current (1977) price levels.
4. Local Employment. Based upon available estimates of local employment from the 1960 and 1970 Census, Cloverdale's employment remained relatively static over the decade. Local employment opportunities increased 11% between 1960 and 1970, from 1,041 to 1,155 jobs.

#### Housing and Social Trends.

1. Housing for the Elderly. Of the 596 persons 65 years and over occupying households within Cloverdale, approximately 120 reside at the King's Valley Senior Citizen housing complex. Only 50% of King's Valley residents are local to the immediate Cloverdale area. Not only are there many elderly persons (476) occupying existing housing stock throughout the city, but there also appears to be resistance on the part of the local elderly population to occupy "senior citizen housing". Regional housing trends tend to confirm that senior citizens are increasingly choosing to live on their own rather than institutions or "extended family" situations. Elderly persons are also living longer.

The import of these indicators are twofold relative to public policy response:

- A. Careful consideration should be given of whether or not to accommodate additional "projects" for senior citizen housing in the Cloverdale community. The provision for new elderly housing opportunities for senior citizens from outside the immediate area would offer little benefit to the area by increasing the proportion of dependent households in the community.
- B. Bay area estimates of elderly owner occupied households show a median income range of between \$5,000 - \$9,999. Sixty-nine percent of these households showed incomes below 80% of the local median income, which is the indicator for "low" income eligibility for housing assistance. Similarly, elderly renters evidenced a 70% incidence of overpayment for shelter. With these indicators in mind, local public policy decisions should be weighed against their direct and/or indirect economic spillover impacts upon the Cloverdale senior citizen population. Such policy decisions include tax increases, utility rates and fees, structural maintenance and code enforcement policies, etc. which may tend to aggravate a worsening economic situation for those least able to economically respond.
2. Female Headed Households. Recent increases in divorce rates in California have contributed to new household formation by the splitting of one original household into two. The split often results in the creation of a new household headed by an unmarried female with

children. In such cases the space requirements may be approximately the same, but the household income (and resources for maintenance and repair) may be substantially reduced. There is no recent estimate of the magnitude of this phenomenon in the Cloverdale area available. The trend is mentioned to alert local decision makers of this social dynamic within the regional housing market.

3. Handicapped Households. Housing for the handicapped is increasing in demand as such persons increasingly are moving into independent living situations away from traditional institutions.
4. Mobile Households. The growing desire for mobility and rapid turnover of housing units has and is creating increasing demands for rental housing. This is most characteristic of single persons and young marrieds without children. More often than not rental units are the only housing affordable to those who must locate or re-locate to areas for job opportunities, etc. The provision of an adequate supply of rental housing in a locality allows newcomers a chance to gain a housing foothold.
5. Household Size. Household size in the City of Cloverdale has decreased from 3.00 persons per household in 1960 to 2.6 in 1975. It is estimated (ABAG) that trends in household size will continue to decrease in the foreseeable future - estimated at 2.5 by year 2000.

As a result of this demographic trend and growing economic constraints, future public policy relative to housing may wish to consider and/or encourage the construction of new homes with physically smaller space requirements and increased open space benefits as might be achieved through cluster housing and/or planned unit developments.

6. Structural Conditions. Although there is no precise data or inventories of the structural age of the housing units within the City, it is estimated that 15% - 20% of the housing stock is currently 30 years old and over. With successively larger proportions of the housing stock reach 30 years and older in the coming decade, there will evolve a need for an on-going program of structural inventory and inspection to insure conservation and rehabilitation efforts.

## DETERMINATION OF HOUSING NEED

Traditionally, determinations of housing "need" have focused primarily on the disparity between income and housing availability at affordable rents. However, a more expanded viewpoint further defines need in terms of the number of housing units required to provide reasonable choice in housing for all residents, the number of households forced to live in intolerable conditions, and the number of households which, while housed in standard units, cannot exert a choice in housing and would seek assistance if it were available.

Relative to these broad parameters defining the realm of housing need, the Sonoma County Planning Department has developed an accepted methodology which has been used to quantify the determination of housing need by locality. These figures rely primarily upon 1970 census data since a greater detail of data refinement, especially relative to income and rental relationships, has been available from that source. These figures have been recognized by the Federal Department of Housing and Urban Development and the Sonoma County Community Services Administration for the purposes of support data for Housing Assistance Plan grant applications for Sonoma County and its localities. As such, the incorporation of this data into the City of Cloverdale's Housing Element insures consistency with the local grant funding clearinghouse.

### Methodology

To avoid the perils of either single factor analysis or redundancy, four overlapping factors relative to housing were utilized. They are: income, rent, poverty level, and overcrowding. In addition, a fifth independent factor was

included -- that of the number of units required to raise the vacancy rate to 4.5%.

### Income

The first factor is family income under \$6,000 per year. It is expected that any family with such an income limitation would experience hardship in competing for and retaining adequate shelter. It must also be taken into consideration that while this income is minimal it does not take into consideration those families with incomes less than \$6,000 who presently own their own home and who may not have any serious housing problems. It is estimated that approximately 309 Cloverdale households presently earn less than \$6,000 per year.

### Affordability

The California State Department of Housing and Community Development defines "affordable" housing as safe, sanitary and decent housing that can be obtained at a cost not exceeding 25% of the gross income of the occupant household. In light of escalating housing costs and the continued erosion of the real buying power of the housing consumer, affordable housing becomes a rather elusive goal; however, recent county surveys tend to support the fact that more and more residents either willingly or by default choose to spend upwards of 35% of gross income on shelter. With this in mind, 35% was chosen as the figure which indicates hardship in meeting monthly housing needs. It has been estimated that 118 households in Cloverdale fall within this category (1970 data).

### Households Below Poverty Level Income -- Renter Occupied

One factor used in determining housing need is the number of households below poverty level income which are renter

occupied. This factor helps to identify areas of real hardship in the community where the combination of low income and renter-occupied units is accentuated. Approximately 93 housing units fall within this category.

### Overcrowding

As defined by the Bureau of the Census, overcrowding results when the occupancy of a dwelling unit exceeds 1.01 persons per room. Table 2-1 indicates the level of overcrowding within the city in 1970.

TABLE 2-1  
DWELLING UNITS IN EXCESS OF 1.01 PERSONS/ROOM  
CITY OF CLOVERDALE, 1970

Persons/Room	Housing Units
1.01 - 1.50	67
1.51 +	18
Total	85

### Summary of Housing Need

Table 2-2 provides a statistical summary of the various factors affecting the number of local housing units requiring housing assistance. The total estimated housing assistance need for the City of Cloverdale approximates 168 units, 12% of the existing housing stock. This compares favorable with other Sonoma County municipalities and with the county average of 13.4%.

It is important also to note that this need does not necessarily represent a requirement for the construction of 168 new housing units within the community. Rather, it suggests that some form of housing assistance (rent subsidy, low income loans, etc.) in addition to the provision for new

housing opportunities within the community is the proper focus for local housing policy. In other words, the existing deficiencies in terms of affordable housing and the need for housing assistance lies within the existing housing stock. Only if new units are constructed with a competitive rental range and only if existing residents are given an opportunity to compete for such new housing will the identified housing need in the city be remedied.

TABLE 2-2  
SUMMARY FACTORS OF HOUSING NEED  
CITY OF CLOVERDALE

I.	Number of families with income less than \$6,000	..... 309
II.	Overcrowding - 1.01 Persons Per Room	..... 85
III.	Households below Poverty Level (renter - occupied)	..... 98
IV.	Households Paying More Than 35% of Income For Rent	..... 118
V.	Sub - Total	..... 610
VI.	Sub - Total Divided by 4	..... 152
VII.	Vacant Units For Sale Or Rent	..... 44
VIII.	Additional Units Needed For 4.5% Vacancy Rate	..... 16
IX.	Total Households Needing Housing Assistance (VI & VIII)	..... 168

Source: 1970 Census

Sonoma County Planning Department

Sonoma County Community Services Administration

2.3.1 Community Housing Goals

Community goals relating to housing are presented here in groupings of five distinct areas of policy concern. Subsequent to each Goal, a series of Objectives are listed that serve as the component policy means by which the overall goal may be achieved. The three areas of concern are as follows:

- A. Production of New Housing
- B. Conservation of Existing Housing Stock
- C. Housing Development and Design

A. Production of New Housing

As future growth of the City of Cloverdale will occur through natural population increases, new household formation and the attraction of in-migrants to the community as housing opportunities are made available, it is the City's best interest to provide housing for the accommodation of all income and age groups. The continued viability of the Cloverdale community depends on the achievement of this housing mixture.

GOAL A: STIMULATE AND ENCOURAGE EFFORTS TO PROVIDE AN ADEQUATE SUPPLY IN BOTH THE RENTAL AND OWNERSHIP MARKETS OF SAFE, SANITARY, AND DECENT HOUSING FOR ALL INCOMES, AGES AND LIFESTYLES WITHIN THE CITY OF CLOVERDALE.

Objectives:

- \* Provide for a variety of housing opportunities through innovative and flexible land use and zoning administration.

- \* Provide for a diversity of housing styles and density within new developments.
- \* Provide incentives for the integration of low and/or moderate income housing units into existing and new housing developments.
- \* Provide housing opportunities that meet the specialized needs of the elderly and handicapped.
- \* Provide for high quality of construction for all types of housing.
- \* Encourage utilization of Federal Rental Assistance Programs such as the Section 8 Program.
- \* Encourage the Sonoma County Housing Authority to be the principal administrator of low and moderate income programs within the City of Cloverdale.

B. Conservation of Existing Housing Stock

This area of concern relates directly to the continued maintenance of the existing housing stock as a recognized resource within the community, both aesthetically and functionally.

GOAL B: MAINTAIN THE QUALITY AND CONTINUITY OF  
ESTABLISHED NEIGHBORHOODS WITHIN THE CITY  
OF CLOVERDALE THROUGH THE CONSERVATION OF  
THE EXISTING HOUSING STOCK.

Objectives:

- \* Encourage the continued upgrading of property through educational (voluntary) code enforcement programs.
- \* Develop a consistent zoning enforcement program within the community.
- \* Develop a program to identify and preserve historic and architecturally significant structures, sites, or neighborhoods.
- \* Encourage the continued owner-occupancy of the City's older housing stock

- \* Encourage utilization of all public and private mechanisms for the rehabilitation and conservation of housing.

C. Housing Development and Design

This area of concern relates directly to city policies and procedures such as zoning, subdivision and design review, and general plan administration that can allow for flexibility and innovation in development design to occur.

**GOAL C:** PROMOTE A SENSE OF NEIGHBORHOOD AND COMMUNITY IDENTITY BY ENCOURAGING DISTINCTIVE VARIATIONS IN RESIDENTIAL DEVELOPMENT THAT PROVIDE FOR A VARIETY OF HOUSING CHOICE, PRESERVE LAND, AND PROVIDE FOR OPEN SPACE AMENITIES.

Objectives:

- \* Encourage and provide incentives for a mix of housing types and prices within all new developments.
- \* Encourage designs that provide adequate outdoor living space and privacy for each dwelling unit.
- \* Encourage retention of existing natural features and vegetation into development designs.
- \* Promote the use of building performance standards which emphasize energy and water conservation.
- \* Encourage design of residential development that maximizes energy efficient travel patterns.

## HOUSING PROGRAM

The Housing Program for the City of Cloverdale is directed toward the following:

Target: Low income families and individuals\*  
Large families of low to moderate income  
The elderly and handicapped

### Housing

Needs: New low-income homes and rentals  
168 Rehabilitation of existing housing stock  
Units Abatement of sub-standard housing  
Provision of rental assistance  
Low-interest loans for persons of low income

### 2.4.1 Implementation Measures

#### Inventory of Vacant Land

Table 2-3 and Exhibit 2-1 offers a summary of vacant land potentially suitable for new housing opportunities within the City of Cloverdale. The inventory includes only those lands presently within the jurisdictional limits of the City and does not assess the several hundred acres of potentially available residential land lying inside Cloverdale's urban expansion area. It must be stressed that the inventory as outlined here represents only an initial effort requiring on-going monitoring, updating, and refinement by city staff. Future analysis should closely follow the Site and Neighborhood Standards recognized by the Department of Housing and Urban Development (Federal Register Volume 41, No. 81, Section 800.112).

\*Low income = below 80% of median income, with adjustments for family size and construction costs.

Exhibit 2-1

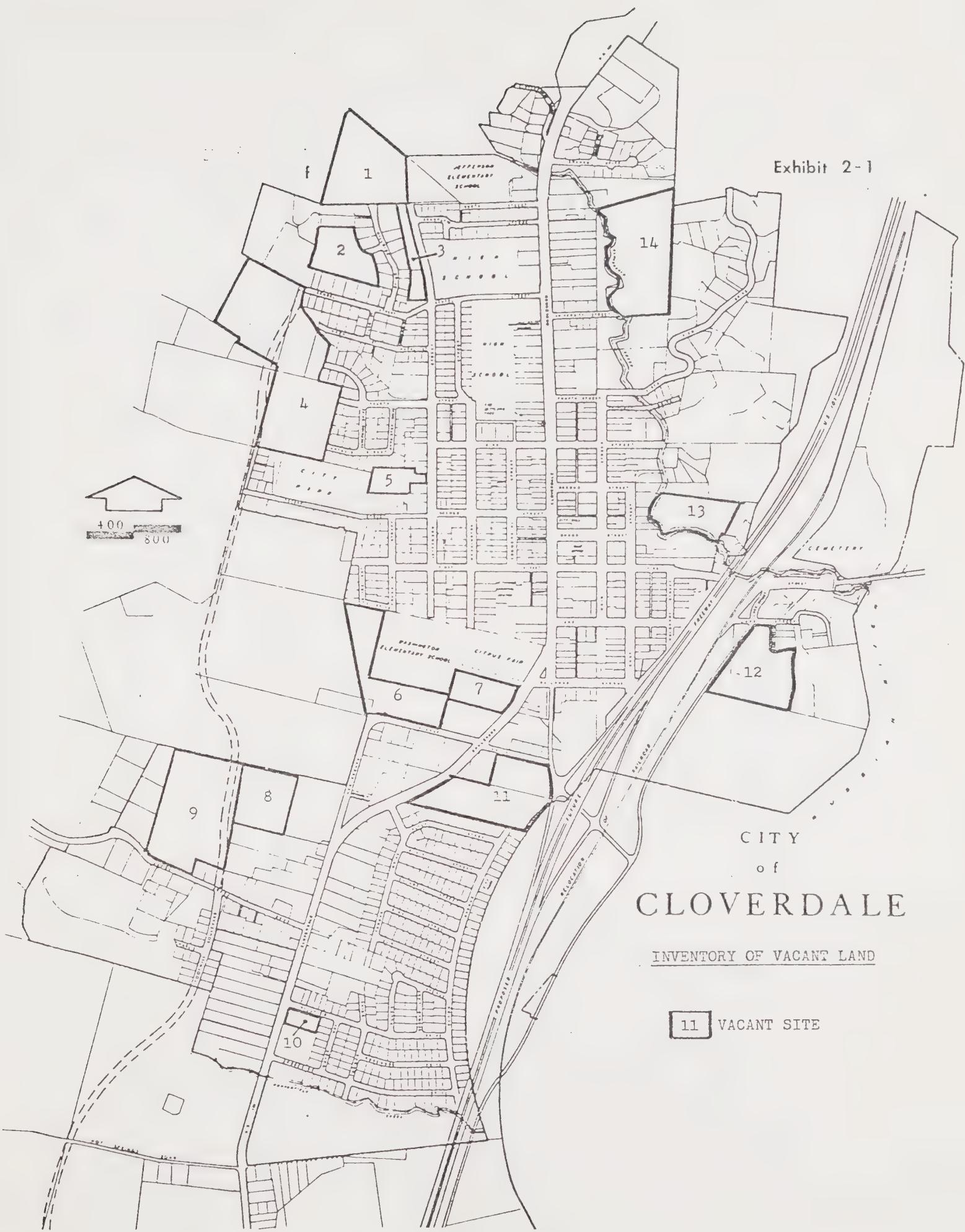


TABLE 2-3  
INVENTORY OF VACANT LAND  
CITY OF CLOVERDALE

SITE	SIZE	ZONING	RES. SUITABILITY			PUBLIC FACILITIES	CONSTRAINTS
			HIGH	MED.	LOW		
1	9.6	R-1		X		Abutting	Access
2	5.3	R-1		X		"	None
3	2.3	R-1			X	"	Slope
4	16.0	R-1		X		"	Slope Ag. Displacement
5	2.3	R-2		X		On-site	None
6	7.7	R-1/R-2	X	X		Abutting	Ag. Displacement
7	3.8	H-S	X	X		"	"
8	8.0	R-1	X	X		"	Ag. Displacement Creek Setback
9	14.3	R-1		X		"	Moderate slope Creek Setback
10	.6	H-S			X	"	Traffic/Noise
11	11.0	H-S/R-1	X			"	Traffic/Noise Drainage Ag. Displacement
12	10.0	R-1/M-1		X	X	"	Access Noise F-2 Flood Plain
13	5.5	R-1		X	X	"	Access Creek Setback Slope
14	14.0	R-1			X	"	Access Creek Setback Slope

### Housing Site Acquisition

As of this writing the City of Cloverdale has successfully applied under the H.U.D. Community Development Program for \$65,000 of discretionary block grant funds for site acquisition for the construction of low and moderate income housing. With funding expected by late 1977, the acquisition of a housing site or sites, site preparation, development packaging and eventual construction represent a short to mid-term program expected to take several years.

### Housing Assistance Program

An ongoing program should be developed whereby the City of Cloverdale could assume a leadership role in insuring better coordination between local, regional, state and federal agencies and private sector parties such as developers, real estate interests, builders, etc., regarding housing needs. To this end such a program should include:

- A. The development of programs and procedures to facilitate the construction of new housing units (specifically for low and moderate income families) by providing staff support necessary to administer rehabilitation programs (where necessary), by assisting in the location of sponsors for assisted housing funded under available state and federal programs.
- B. Collection, analysis and publication of available data on local and regional housing market characteristics.
- C. The assumption of lead agency responsibility for all environmental documents required for projects containing state or federally funded low and moderate income housing.
- D. The development of a public information system to promote wider understanding and utilization of existing housing assistance and funding mechanisms such as the Section 8

Rental Assistance Program, the Weatherization Program as administered by the office of the Sonoma County People for Economic Opportunity (SCPEO), the Marks-Foran Residential Rehabilitation Loan Program, and the various programs available from the Farmers Home Loan Administration. Similarly, as new programs become available information should systematically be disseminated to the public.

- E. The periodic updating of general plan data base as census data and other socio-demographic information become available.

#### Community Analysis Program

A systematic Community Analysis Program should be prepared to include:

- A. An inventory of structural housing conditions throughout the city.
- B. The development of acceptable local criteria for defining "substandard" housing within the City of Cloverdale.
- C. The establishment of a building code and zoning enforcement program to remedy substandard and/or deteriorating housing stock through technical and education assistance.

#### Historic Preservation Program

A formal Historic Preservation Program should be initiated under the auspices of the Cloverdale Historical Society and in coordination with the Sonoma County Landmarks Commission. Such a program should include a parcel specific inventory of historic places, housing, and other physical and cultural landmarks (see Open Space and Conservation Plan). Future considerations should include development of historic districts (if appropriate) and/or zoning permit procedures to protect historic features within the community.

## APPENDIX - DEMOGRAPHIC ANALYSIS

2.5

### POPULATION AND HOUSING CHARACTERISTICS

In 1975 the County of Sonoma, in conjunction with the California State Department of Finance, conducted Sonoma County's first Mid-Decade Census. As these censuses continue the City will have a five-year monitor of population and housing changes, and population data within the incorporated city boundaries will be available at greater geographic detail. Exhibit 2-2 and Table 2-4 define population and housing characteristics of the City at the Block Group level.

TABLE 2-4  
POPULATION AND HOUSING CHARACTERISTICS BY BLOCK GROUP  
CITY OF CLOVERDALE, 1975

Block Group	Housing Type	Total Housing Units	Vacant Units	% Vacant	Occupied House-Holds	House-Hold Pop.	Pop. Per Hshld.
200	Single-Family	71	5	7.04	66	183	2.77
	Duplex-Fourplex	8	1	12.50	7	24	3.43
	Multi-Family	--	--	--	--	--	--
	Mobile Home	--	--	--	--	--	--
	Group Quarters	--	--	--	--	8	--
Sub-Total		79	6	7.59	73	215	2.94
300	Single-Family	358	16	4.47	342	945	2.76
	Duplex-Fourplex	25	3	12.00	22	48	2.18
	Multi-Family	6	--	--	6	10	1.67
	Mobile Home	39	--	--	39	65	1.66
	Group Quarters	--	--	--	--	71	--
Sub-Total		428	19	4.44	409	1139	2.61
400	Single-Family	628	25	3.99	603	1784	2.96
	Duplex-Fourplex	110	19	17.27	91	188	2.07
	Multi-Family	136	14	10.29	122	176	1.44
	Mobile Home	42	--	--	42	82	1.95
	Group Quarters	--	--	--	--	79	--
Sub-Total		916	58	6.34	858	2230	2.60
	Single-Family	1057	46	4.35	1011	2912	2.89
	Duplex-Fourplex	143	23	16.08	120	260	2.17
	Multi-Family	142	14	9.86	128	186	1.45
	Mobile Home	81	--	--	81	147	1.81
	Group Quarters	--	--	--	--	79	--
Total		1423	83	5.8	1340	3584	2.66

Exhibit 2-2

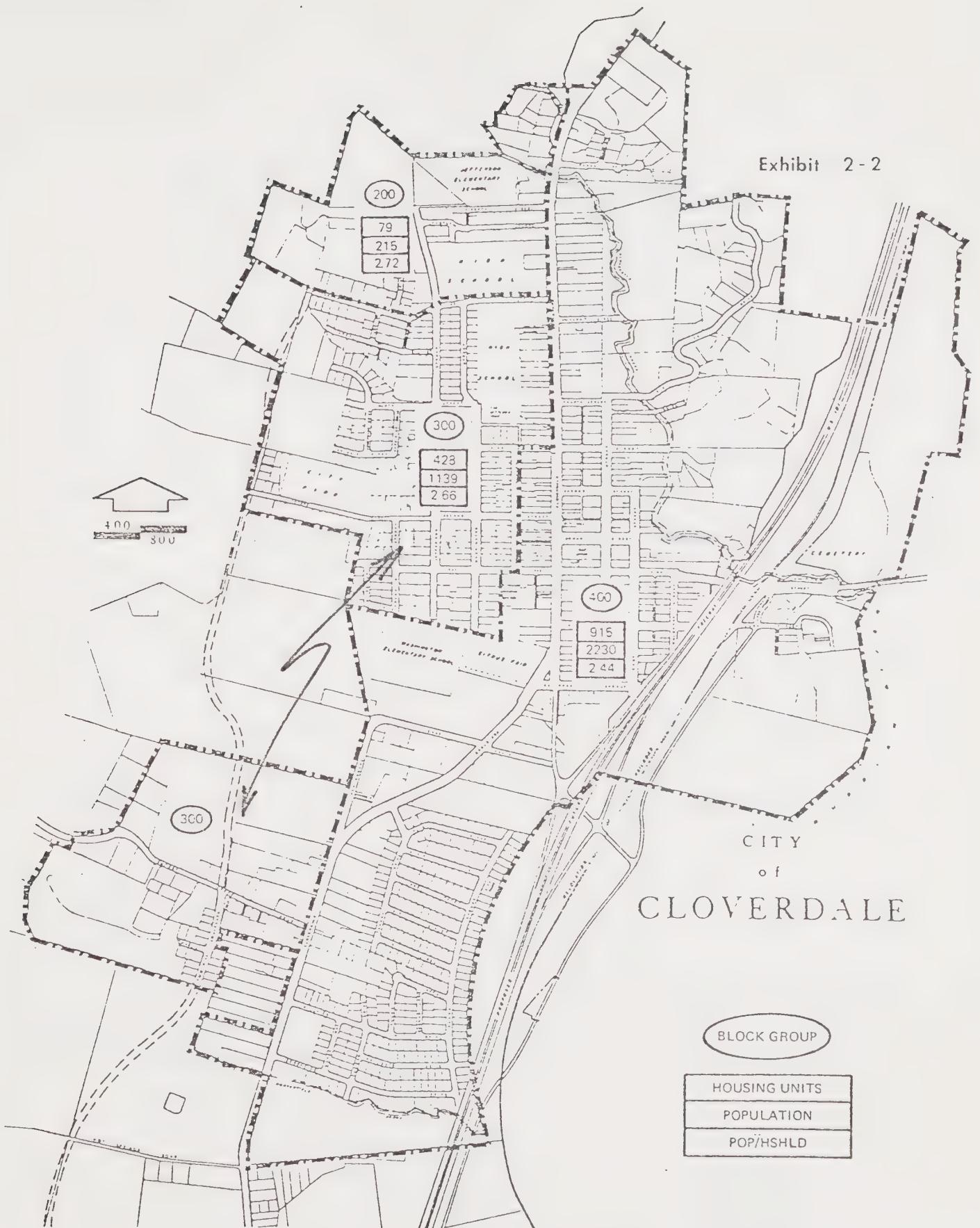


TABLE 2-5  
HOUSING TYPE SUMMARY  
CITY OF CLOVERDALE, 1975

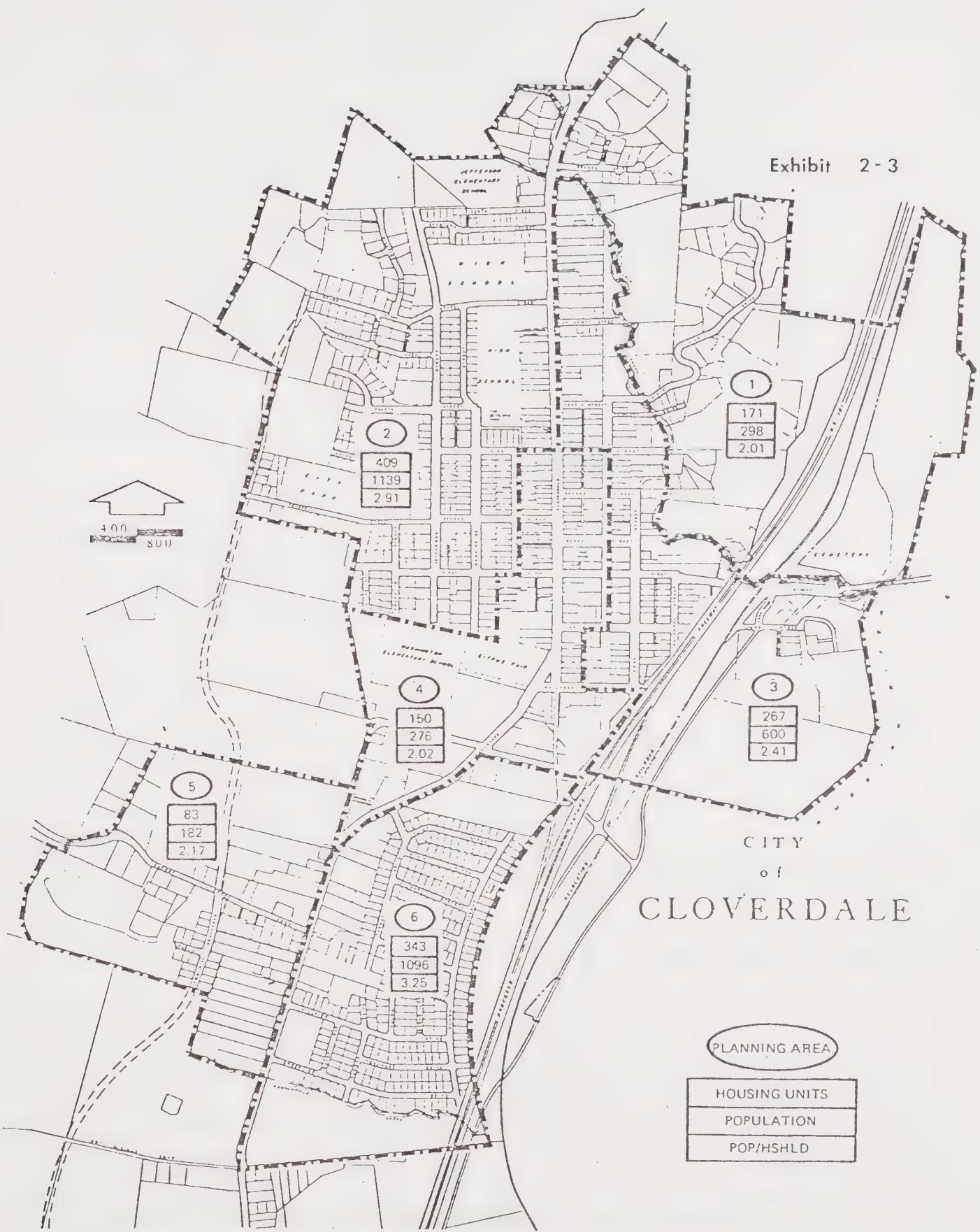
Housing Type	Total Units	%
Single-Family	1057	73%
Duplex-Fourplex	143	11%
Multi-Family	142	10%
Mobile Home	81	6%
Total	1423	100%

Exhibit 2-3 breaks down the Block Group Data into Planning Areas for neighborhood analysis. Table 2-6 further defines the Planning Area population and housing profiles.

TABLE 2-6  
POPULATION AND HOUSING CHARACTERISTICS BY PLANNING AREA  
CITY OF CLOVERDALE, 1975

Planning Area	Housing Units	Vacant Units	%	Hshlds.	Hsld Pop.	Pop. Per H.H.
1	171	23	13%	148	298	2.01
2	409	20	5	389	1,139	2.91
3	267	18	6	249	600	2.41
4	150	14	9	136	276	2.02
5	83	2	2	81	182	2.17
6	343	6	2	337	1,096	3.25
Total	1,423	83	6%	1,340	3,591	2.66

Exhibit 2-3



The largest family size found within the city is that of Planning Area 6 in the Tarman and Hillview neighborhoods. Similarly, the smallest household sizes are found in Planning Area 1, which is predominantly characterized by larger lot size and expensive homesites, and Planning Area 4, which contains the retail business district of the city and predominantly rental housing. The low family size exhibited by Planning Area 5 is somewhat deceiving, for if one were to subtract the 39 mobile homes and their population of 65 persons, the household size for this area would better approximate 2.65 persons per household.

#### 2.5.1 Owner/Renter Breakdown

Tables 2-7 and 2-8 present an analysis of the distribution of housing units throughout the City of Cloverdale comparing owner-occupied vs. rental units and their approximate monthly rent.

TABLE 2-7  
DISTRIBUTION OF OWNER/RENTER HOUSING, 1975  
CITY OF CLOVERDALE

Response	Households		Percent	
	County	Cloverdale	County	Cloverdale
Rent - Less than \$100	6,451	196	7.13%	14.63%
Rent - \$100 to \$149	6,609	166	7.30	12.39
Rent - \$150 to \$199	8,878	99	9.82	7.39
Rent - \$200 to \$249	3,576	22	3.95	1.64
Rent - \$250+	2,102	12	2.32	0.90
Own - \$150 or Less	19,743	417	21.83	31.12
Own - \$150 to \$200	7,044	108	7.79	8.06
Own - \$200 to \$250	6,714	68	7.42	5.07
Own - \$250+	10,967	70	11.37	5.22
No Response	17,967	170	19.86	12.69%

TABLE 2-8  
SUMMARY OF OWNER/RENTER HOUSING, 1975

	Sonoma County		Cloverdale	
	Units	%	Units	%
Own	43,781	49%	663	50%
Rent	27,613	31%	495	37%
No Response	17,976	20%	170	13%
Total	89,370	100%	1328	100%

TABLE 2-9  
DISTRIBUTION OF OWNER/RENTER HOUSING  
BY BLOCK GROUP, 1975  
CITY OF CLOVERDALE

Response	Block Group					
	200		300		400	
Units	%	Units	%	Units	%	
Rent less than \$100	1	1.37%	53	12.96%	142	16.57%
Rent \$100 to \$149	6	8.22	24	5.87	136	15.37
Rent \$150 to \$199	6	8.22	7	1.71	86	10.04
Rent \$200 to \$249	1	1.37	5	1.22	16	1.87
Rent \$250+	2	2.74	4	.98	6	.70
Own \$150 or less	34	46.58	145	34.45	237	27.65
Own \$150 to \$200	3	4.11	42	10.27	63	7.35
Own \$200 to \$250	5	6.85	27	6.60	36	4.20
Own \$250+	11	15.07	31	7.58	28	3.27
No Response	4	5.48%	70	17.11%	96	11.20%

TABLE 2-10  
SUMMARY OF OWNER/RENTER HOUSING BY BLOCK GROUP, 1975  
CITY OF CLOVERDALE

	Block Group					
	200		300		400	
	Units	%	Units	%	Units	%
Own	53	72%	245	60%	364	43%
Rent	16	21%	93	23%	386	46%
No Response	4	5%	70	17%	96	11%

The Tables indicate that the City of Cloverdale reflects approximately the same proportion of owner/renter housing mix as that of Sonoma County; however, the city enjoys proportionately lower rents and monthly house payments than the county.

A comparison of Table 2-4 with the Block Group data offered in Table 2-9 indicates that a sizeable portion of the single-family housing units within the city are renter occupied. For example, if one were to assume that all duplexes and multi-family units within the city were rental units, then the total occupied rental units for Block Group 400 would be 246 (Table 2-4: duplexes and multi-family). However, Table 2-9 indicates that 386 units are rented in Block Group 400, suggesting that 140 single-family units are rented. Similar computation for the entire city reveals that approximately 210 or 20% of all single-family units within the City of Cloverdale are renter occupied.

## 2.6

### INCOME CHARACTERISTICS

The following tables show that Cloverdale's household income is generally lower than that evidenced by Sonoma County. This may be a function of the sizeable proportion of the increasing resident population that are either retired and/or on fixed income.

TABLE 2-11  
INCOME DISTRIBUTION, 1975  
CITY OF CLOVERDALE

Response	County	Cloverdale		Block Group		
		%	#	%	%	%
\$2500 or less	10.01	109	8.2	4.11	6.60	6.88
\$2500 to \$4999	13.2	257	19.2	16.44	12.47	16.80
\$5000 to \$7999	14.1	228	17.1	15.07	11.00	14.94
\$8000 to \$10,999	14.8	244	18.3	5.48	14.18	14.94
\$11,000 to \$14,999	17.7	235	17.6	12.33	16.14	14.59
\$15,000 to \$19,999	14.5	155	11.6	15.07	7.09	9.80
\$20,000 to \$24,999	8.7	60	4.5	6.85	5.87	2.92
\$25,000 to \$49,000	5.8	36	2.7	1.37	3.18	1.87
\$50,000 or more	1.1	5	.4	0	.49	.23

TABLE 2-12  
HOUSEHOLD AND PER CAPITA MEDIAN INCOMES, 1975  
SONOMA COUNTY

	Sonoma County	Cloverdale	Healdsburg	Sebastopol	Santa Rosa	Rohnert Park
Household Income	\$10,600	\$8,900	\$9,000	\$7,400	\$11,300	\$11,800
Income/Capita	\$ 3,950	\$3,400	\$3,400	\$3,150	\$ 4,500	\$ 3,800
Population/Household	2.66	2.62	2.61	2.34	2.48	3.09

Table 2-13 illustrates Cloverdale's growth from the 1920's to the present. Prior to the post-war 1950's and 1960's Cloverdale was a small rural community in northern Sonoma County experiencing a modest growth of 6% per decade during the 1920's and 1930's. However, the 1950's and 1960's saw Cloverdale grow by 60% and then 120% respectively. This was due primarily to the influx of in-migrants settling in the Cloverdale area attracted by the availability of lumber and milling-related employment and the availability of housing provided by the Tarman and Hillview Tracts to the south of the city.

During the past decade growth has declined to a moderate rate. This is due to housing market trends in the greater San Francisco Bay region, with more southerly communities attracting a greater share of new households due to more accessible employment opportunities than are presently available in the northern periphery of the region.

TABLE 2-13  
CLOVERDALE GROWTH 1920 - 1975

Year	Population	% Growth By Decade
1920	718	
1930	759	+ 6%
1940	809	+ 6%
1950	1292	+ 60%
1960	2843	+120%
1970	3251	+ 14%
1975	3591	+ 9%

TABLE 2-14  
COMPARATIVE CITY GROWTH 1960 - 1975

City	1960	1970			1975		
	Population	Population	Gain	%	Population	Gain	%
Cloverdale	2,848	3,251	+ 403	+14%	3,591	+ 743	+ 26%
Healdsburg	4,816	5,438	+ 622	+13%	6,166	+ 1,350	+ 28%
Santa Rosa	31,027	50,006	+18,972	+61%	65,611	+ 34,584	+115%
Rohnert Park	3,675	6,133	+ 2,458	+40%	12,926	+ 9,251	+252%
Petaluma	14,035	24,870	+10,835	+77%	31,045	+ 17,010	+121%
Sonoma County	147,375	204,885	+57,510	+39%	248,209	+100,834	+ 68%

While the City of Cloverdale grew by 9% between 1970 and 1975 Census Tract 1542 (Exhibit 2-4), within which Cloverdale is situated, showed only a 3% growth over the same time period.

TABLE 2-15  
CENSUS TRACT GROWTH, 1970 - 1975

Tract 1542	Population		Gain over 1970
	1970	1975	
	4,860	5,000	
			+140 ( +3% )

## CENSUS TRACTS IN THE SANTA ROSA, CALIF. SMSA

**Exhibit 2-4**



This suggests that:

- In 1970 Cloverdale captured 67% of tract population.
- In 1975 Cloverdale captured 72% of tract population.

In the period between 1970 and 1975 the City of Cloverdale grew by 340 people while the census tract (inclusive of the city) grew by only 140 people. This apparent paradox further indicates that much of the City of Cloverdale's population increase has been through annexation rather than by natural increase or in-migration into the city.

If recent annexations to the City of Cloverdale (Cloverdale Senior Citizen Housing, subdivisions in Fourth and School Street vicinity, etc.) have accounted for an estimated 150 people, then Cloverdale's real growth during this five-year period more closely approximates 140 people -- about ten new households per year. This is substantiated by a review of building permit activity within the City of Cloverdale for the same period (Table 2-16). Exhibit 2-5 provides a regional profile of housing starts for the San Francisco Bay Area.

TABLE 2-16  
BUILDING PERMIT ACTIVITY, 1971 - 1977  
CITY OF CLOVERDALE

Year	Permits Issued	Population*
1971	6	16
1972	12	32
1973	13	35
1974	20	53
1975	20	53
1976	48	128
1977**	42	112
TOTAL	161	429

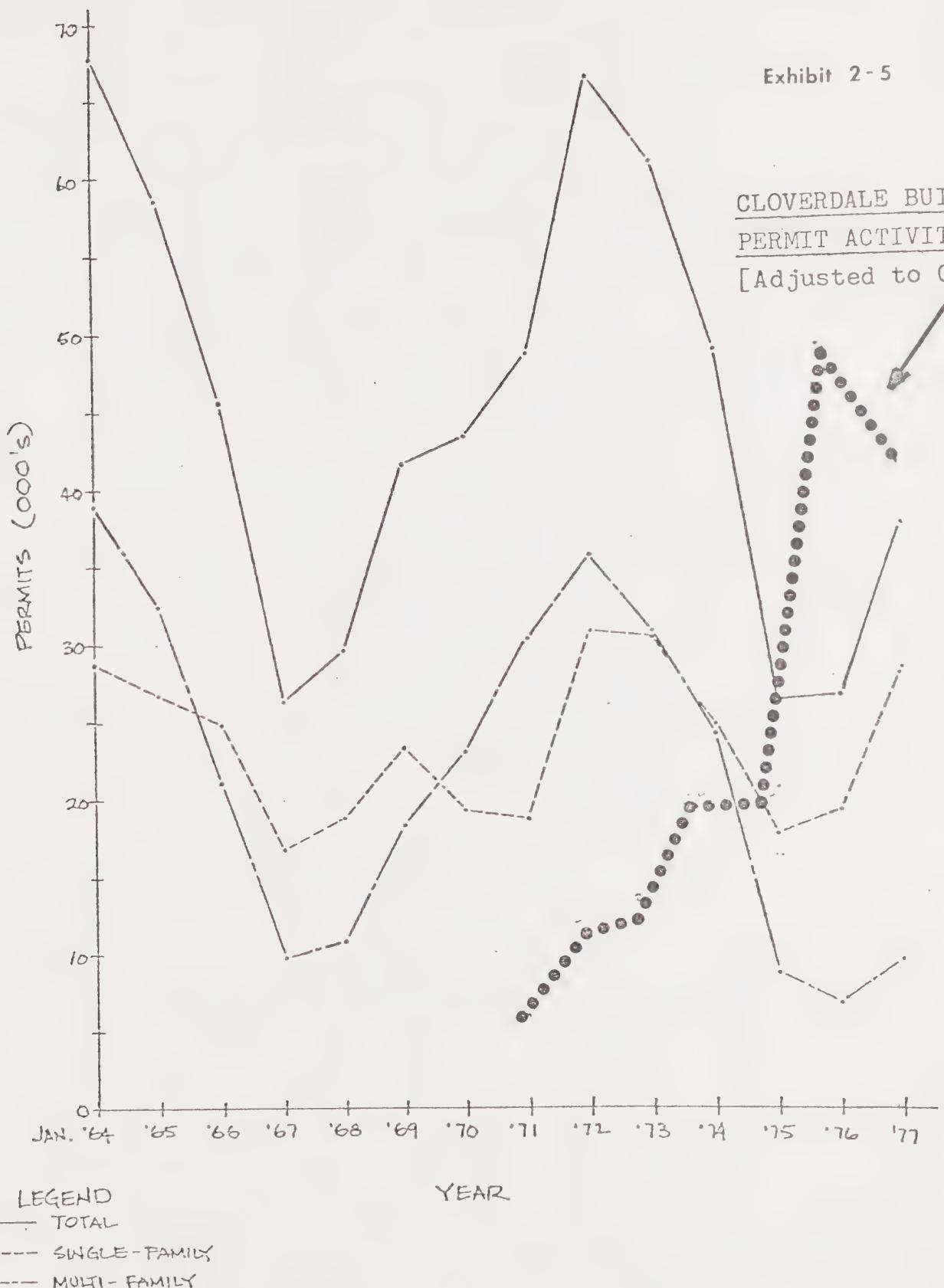
\* Assumes 2.66 persons/household

\*\* June 1977

Source: City of Cloverdale

SAN FRANCISCO BAY AREA: RESIDENTIAL  
BUILDING PERMITS ISSUED, 1963 - 1976

Exhibit 2-5



Sources: A SPECIAL REPORT ON THE ECONOMY OF THE SAN FRANCISCO BAY AREA,  
research department, Security Pacific National Bank, Sept. 1975.

CALIFORNIA CONSTRUCTION TRENDS, research department, Security  
Pacific National Bank, Dec. 1975, 1976, pg. 4.

Table 2-17 below indicates the declining trend in average household size within the city as compared with that of Sonoma County.

TABLE 2-17  
AVERAGE HOUSEHOLD SIZE, 1960 - 1975  
CITY OF CLOVERDALE/SONOMA COUNTY

	1960	1970	1975	2000*
Cloverdale	3.0 pop./d.u.	2.8 pop./d.u.	2.6 pop./d.u.	2.5
Sonoma County	3.0 pop./d.u.	2.9 pop./d.u.	2.6 pop./d.u.	2.5

\* ABAG estimate

## 2.8 SCHOOL ENROLLMENT TRENDS

An analysis of school enrollment trends over the past decade indicates a declining enrollment trend for the Cloverdale Unified School District; the district has experienced overall, a 21% drop in elementary school population during the past eight years and a 16% drop in total enrollment.

TABLE 2-18  
SCHOOL ENROLLMENT TRENDS, 1966 - 1977  
CITY OF CLOVERDALE

Enrollment	66/67	67/68	68/69	69/70	70/71	71/72	72/73	73/74	74/75	75/76	2/77
Elementary	933	993	1011	1048	1029	1008	957	892	923	885	821
High School	375	367	378	386	389	383	383	393	416	435	374
Total	1368	1360	1389	1434	1418	1391	1340	1285	1339	1320	1195
Percent Change		%	%	%	%	%	%	%	%	%	%
Elementary		0	+2	+4	-2	-2	-5	-7	+3	-4	-7
High School		+3	-2	+2	+ .7	-1.5	0	+3	+6	+6	-14
Total		+1	+ .6	+7	-1	-2	-3.6	-4	+4	-1.5	-10

This dramatic decline in school enrollment reflects not only increasing budgetary difficulties for the school district in terms of the loss of state funding tied to average daily attendance, but also reveals that a significant internal shift within Cloverdale's population has been taking place over the past decade.

2.9

### AGE COMPOSITION OF POPULATION

As evidenced on Table 2-19 there has been a marked decrease in the pre-school (0-4) and school age (5-14) population within the city. Conversely, there has been a sizeable increase (+9%) in the number of dependent population 65 years and older. The younger and middle age population between 25 and 54 years old seems to have remained relatively stable during the fifteen-year time period. However, if the trend in declining school age population and increase of retirement age population continues, the city may have to develop policies and services responsive to the needs of a growing dependent population. Table 2-19 provides a further breakdown of age group characteristics by block group as computed in 1975

TABLE 2-19  
AGE COMPOSITION OF POPULATION, 1960, 1970, 1975  
CITY OF CLOVERDALE

Age Group	Total Residents			% of Total		
	1960	1970	1975	1960	1970	1975
0 - 4	346	227	205	12%	7%	6%
5 - 14	628	703	650	22%	22%	18%
Sub Total	974	930	855	34%	29%	24%
15 - 24	357	474	555	13%	15%	15%
25 - 34	330	348	470	13%	11%	13%
35 - 44	396	374	374	14%	11%	10%
45 - 54	302	349	380	11%	11%	11%
55 - 64	213	370	362	7%	11%	10%
65+	226	406	596	8%	12%	17%
TOTAL	2,843	3,251	3,592	100%	100%	100%

TABLE 2-20  
 AGE COMPOSITION OF POPULATION BY BLOCK GROUP, 1975  
 CITY OF CLOVERDALE

Age Group	Block Group					
	200		300		400	
	Pop.	%	Pop.	%	Pop.	%
0 - 4	23	11%	45	4%	137	6%
5 - 14	37	17%	181	16%	424	19%
Sub Total	60	28%	226	20%	561	25%
15 - 24	41	19%	162	14%	354	16%
25 - 34	27	13%	115	10%	331	15%
35 - 44	19	9%	130	11%	224	10%
45 - 54	23	11%	128	11%	228	10%
55 - 64	19	9%	144	13%	201	9%
Sub Total	129	60%	675	59%	1,340	60%
65+	26	12%	238	21%	331	15%
Total	215	100%	1,139	100%	2,230	100%

Data contained in Table 2-21, derived from the 1960 and 1970 Census, offer the best available indicator of the City of Cloverdale's employment characteristics by industry.

TABLE 2-21  
EMPLOYMENT BY INDUSTRY, 1960 - 1970  
CITY OF CLOVERDALE

Industry	1960		1970	
	No. Jobs	%	No. Jobs	%
Construction	20	2%	10	1%
Manufacturing	415	40%	450	39%
Transportation	72	7%	47	4%
Communication, Utilities & Sanitary Services	38	4%	30	2%
Sub Total	545	53%	537	46%
Wholesale & Retail Trade	195	19%	250	22%
Finance, Insurance, Business & Repair Services	55	5%	53	5%
Professional & Related Services	188	18%	174	15%
Public Administration	26	2%	36	3%
Sub Total	464	44%	513	44%
Other	32	3%	105	9%
<b>TOTAL</b>	<b>1,041</b>	<b>100%</b>	<b>1,155</b>	<b>100%</b>

The city experienced a modest growth of 11% in its employment base over the 1960 - 1970 decade (approximately  $\pm 1\%$ /year growth). White collar employment has remained constant at 44% of the total labor force. The most apparent internal shift is in the sizeable increase of employment in the "other" category (these are felt to be self-employed individuals).

Although it may be suspect to draw a hard conclusion from this minor shift away from blue collar employment over the decade, it may be a safe assumption that, as regional timber resources decline, the substantial amount of employment presently associated with the mills, trucking, and secondary wood products industries will also tend to generally decline.

2.11 YEARS OF SCHOOLING COMPLETED

Table 2-21 indicates that the Cloverdale population group 25 years and older has experienced a marked increase in the proportion of school years completed. Median school years completed have increased during the 1960 - 1970 decade from 10.7 to 12.0, creating an increasingly educated constituency within the community.

TABLE 2-22  
YEARS OF SCHOOL COMPLETED, 1960 - 1970  
CITY OF CLOVERDALE

Total Pop. 25 Years +	1960	1970
	1,522	1,846
Years of School		
Elementary (8 years)	298 (19%)	339 (18%)
High School (4 years)	407 (27%)	643 (34%)
College (4 years)	78 ( 5%)	100 ( 5%)
Median School Years	10.7	12.0



3.0

OPEN SPACE AND CONSERVATION PLAN  
CITY OF CLOVERDALE



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APPENDIX

- 3-A REFERRAL LETTER FROM THE CLOVERDALE HISTORICAL SOCIETY
- 3-B SURVEY OF OLD HOMES AND BUILDINGS IN CLOVERDALE BY CLOVERDALE HISTORICAL SOCIETY



### 3.0 OVERVIEW

State Planning Law has places specific mandated responsibilities on local governments for the comprehensive and long term preservation and conservation of open space, and for the conservation, development, and utilization of natural resources within their jurisdiction. This authority is derived from Government Code Sections 65302(e) and 65560 et. seq.

Within the context of the general plan for the City of Cloverdale the Open Space and Conservation Plan serves as a policy statement identifying the community's public effort relative to the conservation of open space in adequate amounts to preserve the environmental amenities which embody the quality of life within the City of Cloverdale. It is important to recognize at the onset that the term "open space" does not preclude development. Rather, the Open Space and Conservation Plan for the Cloverdale community sets the policy guidelines within which the development and/or utilization of land and other natural resources can best be accomplished while maintaining what have been identified as the significant characteristics of Cloverdale's physical and cultural landscape. In such a manner new growth can be accommodated in a comprehensive manner, sensitive to the community's long term goals.

The Element is composed of a goal statement, the Open Space and Conservation Plan and policies for the community, and, by reference, the evaluation and analysis of the physical characteristics and natural resources outlined in the Environmental Impact Report (Section 8) of the General Plan.

### 3.1 GOAL STATEMENT

#### 3.1.1 Land Resources Goal:

To conserve land resources which enhance the physical, social, and economic life style of the Cloverdale area by:

1. Preserving and protecting outstanding geographical and topographical features;
2. Preserving those lands subject to severe environmental hazards such as areas subject to landslides and other geologic constraints, fire prone areas, and flood plains;
3. Preserving the visual amenities of the hillsides including elements of form, scale, vegetation, and natural color.
4. Preserving areas of productive agricultural soil and agricultural use;
5. Providing for comprehensive, coordinated parks and open space programs that fulfill the needs of all segments of the community; needs of all segments of the community.
6. Requiring sound logging and timber management techniques as mandated by the State Forest Practices Act; and
7. Encouraging the use of the Williamson Act and Timber Preserve legislation as a means of preserving agricultural and timber resources.

#### 3.1.2 Water Resources Goal:

To achieve wise management and well-planned utilization of the community's water resources by:

1. Preserving existing natural waterways in their natural state;
2. Encouraging prudent watershed management techniques; and
3. Establishing flood plain protection at the 100 year flood level.

4. Encouraging the multi-use of natural waterways through urban areas as a means of preserving natural riparian habitat and fostering greater open space and recreational utility; and
5. Cooperating with county, state, and regional regulatory agencies in enforcing water quality regulations.

#### 3.1.3 Air Resources Goal:

To preserve clean air in the Cloverdale area by:

1. Supporting an efficient land use pattern that minimizes vehicle trip production and trip length; and
2. Cooperating with county, state, and federal regulatory agencies in enforcing air quality standards.

#### 3.1.4 Biological Resources Goal:

To maintain the biological diversity of the Cloverdale area through preservation of floral and faunal habitat by:

1. Preserving the Russian River and other natural waterways as important wildlife habitat areas and biotic communities;
2. Reviewing all proposed developments with regard to their beneficial or adverse effects upon plant and animal life;
3. Encouraging sound and prudent timber management techniques within the area;
4. Encouraging sound fish resource management of the Russian River; and
5. Encouraging use of native species of vegetation for landscaping.

### 3.1.5 Mineral Resources Goal:

To promote the efficient utilization and management of the area's rock, sand, gravel, geothermal, and other mineral resources by:

1. Requiring the regulation of sand and gravel extraction consistent with the State Surface Mining and Reclamation Act of 1975 to insure replenishment and a continuing supply. To this end the following shall be considered:
  - a. Preservation of topsoil and erosion control.
  - b. Preservation of natural vegetation and wildlife habitats and fisheries.
  - c. Control of drainage and desilting basins.
  - d. Provision for visual and noise control.
  - e. Traffic impacts.
  - f. Restoration plans.
  - g. Bonds and liability commensurate with total costs of compliance with requirements imposed.
  - h. Recreational potential.
  - i. Air quality.
  - j. Energy consumption.
2. Encouraging close coordination with the County of Sonoma's Sand and Gravel Committee relative to the review of sand and gravel extraction permits in the Cloverdale vicinity.
3. Encouraging the development by the county and the geothermal industry of a comprehensive geothermal management program.
4. Encouraging comprehensive, multi-use programs for geothermal leaseholds.
5. Supporting the monitoring of the geothermal resource area by appropriate Sonoma County Departments and other state and local agencies.

### 3.1.6 Cultural Resources Goal:

To create a productive harmony between man and his environment by:

1. Preserving and protecting areas of significant historic, scenic, architectural, and archaeological value;
2. Providing adequate community and neighborhood open space and recreation areas; and
3. Maintaining high standards of visual aesthetic within all parts of the city.

### 3.1.7 Scenic Resources Goal:

To protect and enhance the scenic resources of the Cloverdale environs by:

1. Protecting the natural character of ridges, hillsides, open spaces, and natural waterways.
2. Recognizing and maintaining the scenic resources of the Cloverdale environs as a focal attraction for tourism and recreation.

### 3.2 OPEN SPACE AND CONSERVATION PLAN

The Open Space and Conservation Plan represents the mapped expression of community policy relative to recognition and conservation of physical and cultural "open space" resources. In an effort to more precisely define the areas of policy concern and to facilitate the implementation of the plan, four specific open space and conservation categories have been defined:

1. Urban/Cultural Open Space
2. Resource/Residential Open Space
3. Hillside Open Space
4. Natural Watercourses

#### 3.2.1 Urban/Cultural Open Space

The Urban/Cultural Open Space designation includes the various natural and/or man made open space features that contribute to the quality of life and maintenance of sense of community associated with Cloverdale's urban environment:

- a. Recreation Areas. This sub-category applies to all public parks, both existing and proposed, inclusive of the linear recreational resource of the Russian River. These recreation areas reflect the proposals of the Cloverdale Recreation Plan.
- b. Pedestrian/Bicycle Trail System. As shown on the map and as reflected in the Recreation Plan, the suggested Pedestrian/Bicycle Trail System represents non-vehicular access routes which link recreational, residential, commercial, and employment activities into an integrated loop system throughout the community.

- c. Historic Landmark Sites. This designation reflects not only the Cloverdale Train Depot (National Register of Historic Places), but those existing structures identified by the Cloverdale Historical Society as having significant cultural, historical, and architectural characteristics. With reference to Appendix 3-1 (Referral Letter from the Cloverdale Historical Society, October 4, 1977), these sites are illustrated on Exhibit 3-2 and represent an integral element of the Cloverdale Open Space and Conservation Plan. Each of the individual sites is inventoried in Appendix C and includes a brief historic sketch of the events and/or personages surrounding the site.

#### Policy Objectives

- 1. Preserve the small town amenity and "sense of community" identified with the City of Cloverdale. There is no precise definition for this; what constitutes community identity and amenity is determined by consensus of opinion defined over time.
- 2. Develop non-vehicular trail systems and access routes linking neighborhoods with schools, parks, public facilities, commercial areas, and employment concentrations.
- 3. Encourage the orderly transition and integration of new residential development into the established neighborhood fabric of the city through architectural compatibility, landscaping, and open space linkages.

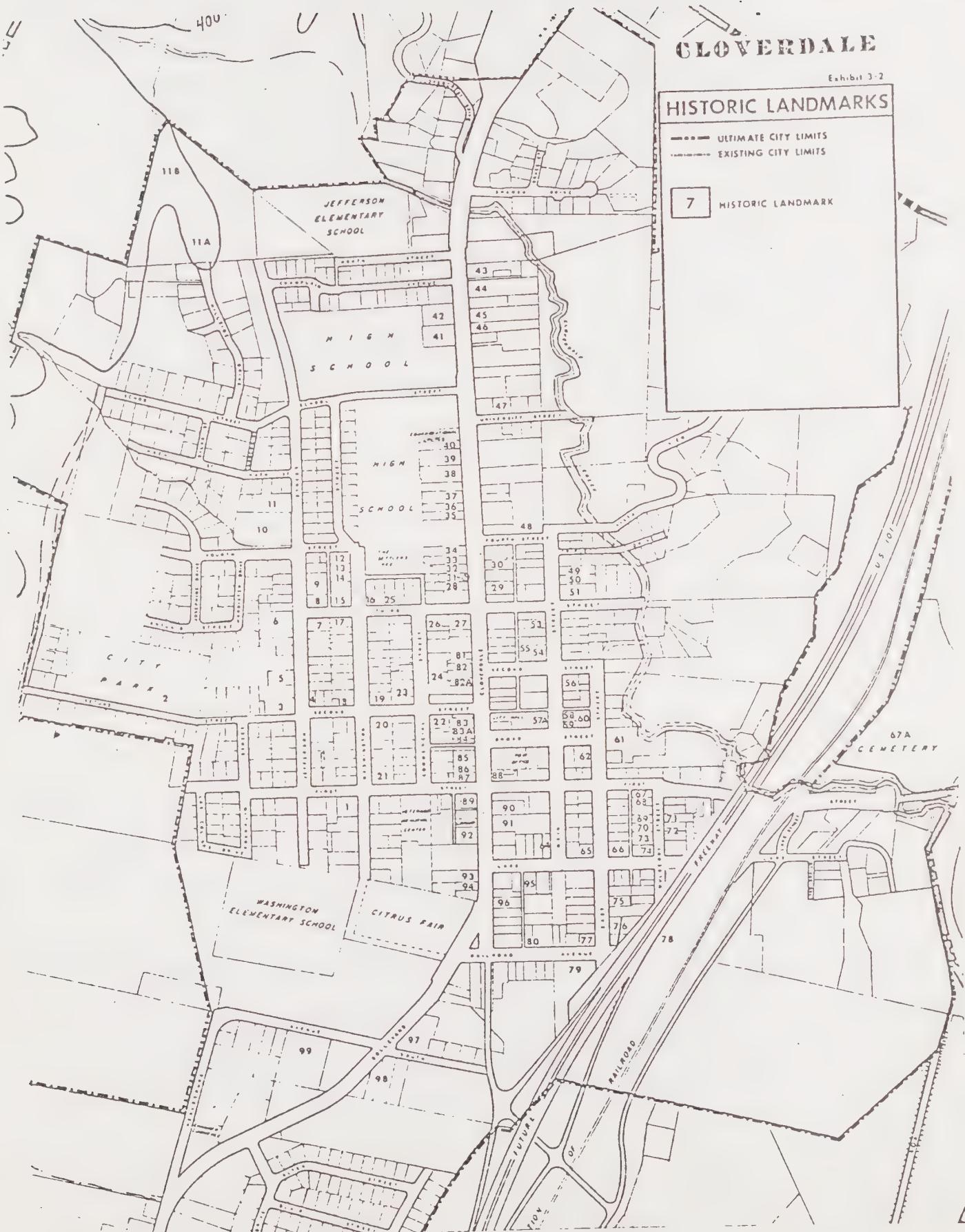
# CLOVERDALE

Exhibit 3-2

## HISTORIC LANDMARKS

— Ultimate City Limits  
- Existing City Limits

7 HISTORIC LANDMARK



4. Retain significant physical and cultural landmarks within the urban landscape of the city, such as clusters or rows of mature trees, significant geographic and topographic features, Victorian or other fine architectural examples, historical sites, etc.

#### Implementation Measures

1. Maintain a comprehensive architectural and design review program for the community responsive to attitudinal and technological change.
3. Conduct a formal urban design study in an effort to develop more precise long term concepts and guidelines for the future development of the city.
4. Prepare an Historic Preservation Program to protect those structures, sites, and areas that serve as significant examples of past eras, persons, and events important to Cloverdale's history.
  - a. Conduct a local inventory of Historic Features in conjunction with the Cloverdale Historic Society.
  - b. Develop and adopt an Historic Combining District Zone as part of the local zoning ordinance.
  - c. Work with both the Cloverdale Historical Society and Chamber of Commerce to develop a Walking Tour Guide of Historic Landmarks throughout the City of Cloverdale.

### 3.2.2 Resource/Residential Open Space

That area defined as Resource/Residential Open Space represents a unique natural resource to the City of Cloverdale in terms of agricultural productivity and potential to accommodate the anticipated growth and urban expansion of the City.

Lying generally below the 400 foot contour elevation, the Resource/Residential Open Space area reflects both the rich prime soil concentration within the City of Cloverdale as well as those areas of intensive and extensive agricultural utility. Topographically the area is predominantly flat to gently rolling with slopes below ten percent.

As an urban development resource the area presents few natural constraints. It is essentially uncommitted to any urban form, although the Foothill Boulevard plan line has been designated through the area. Accordingly, the Resource/Residential Area provides a unique opportunity for innovative development design sensitive to the maintenance of the rich natural resource base while accommodating the growing residential and open space requirements of the community.

#### Policy Objectives

Encourage residential design that includes:

- Cluster type residential developments that preserve some areas of productive agricultural soils as open space
- The retention & integration of producing vineyard into subdivision design as a dynamic landscape feature and visual linkage with Cloverdale's agricultural history.

- The provision for neighborhood garden plots within residential design as a recreational feature and prudent utilization of the underlying soil base.
- 2. Locate one major neighborhood park (12-15 acres) within the Resource/Residential area as a further means of retaining the soil resource.

#### Implementation Measures

1. Utilize "P-C", Planned Community zoning as a means of achieving comprehensive resource management/residential development.

#### 3.2.3 Hillside Open Space

That area west of the City of Cloverdale above the 400 foot contour elevation is defined as Hillside Open Space. Historically, this upland area has been used primarily as a timber resource area. However, in light of the commitment by the City of Cloverdale to provide water service to residential development to at least the 600 foot elevation, the hillsides take on new significance as a sensitive scenic and residential resource of the community. If development is allowed to occur in these hillside areas in a haphazard fashion the sense of open space and visual relief afforded by these upland areas may be lost to the detriment of the community's overall aesthetic attractiveness.

In addition, the severe slopes, poor soils, and potentially unstable geologic conditions in the hillside areas dictate the necessity for superior residential site planning and the preparation of development standards that the community can apply to mitigate the impact of such proposals.

## Policy Objectives

### 1. Site Preparation

- A. Grading. All proposed grading for streets and homesites should be reviewed by the Project Review Committee (consisting of the Directors of the Planning, Public Works, and the Directors of the Planning, Public Works, and Parks and Recreation Departments) or by staff members designated by the Committee. Grading should be held to a minimum. Every reasonable effort shall be made to retain the natural features of the land: skylines and ridgetops, rolling land forms, knolls, native vegetation, trees, rock outcroppings, water courses. Where grading is required, it should be done in such a manner as to eliminate flat planes and sharp angles of intersection with natural terrain. Slopes should be rounded and contoured to blend with existing topography.
- B. Roads. No new roads should be developed where the required grade is more than 15% unless convincing evidence is presented that such roads can be built without environmental damage and used without public inconvenience.

- C. Erosion Control. Grading plans should include erosion control and revegetation programs. Where erosion potential exists, silt traps or other engineering solutions may be required. The timing of grading and construction should be controlled by the Director of Public Works to avoid failure during construction. No initial grading should be done during the rainy season, from November through March.
- D. Drainage. The areas adjacent to creeks shall be kept as much as possible in their natural state. All construction should assure drainage into the natural watershed in a manner that will avoid significant erosion or damage to adjacent properties. Impervious surfaces shall be minimized.
- E. Trees and Vegetation. In all instances every effort should be made to avoid removal, changes or construction which would cause the death of the trees or rare plant communities and wildlife habitats.

## 2. Project Design

- A. Clustering. Generally, buildings should be clustered in the most accessible, least visually prominent, and most geologically stable portion or portions of the site, consistent with the need for privacy to minimize intrusion by sight or sound into one unit's indoor and outdoor living areas from another unit. Clustering is especially important on open grassy hillsides.
- B. Ridgelines. No construction should be allowed to occur within 100 feet vertically of visually prominent ridgelines if there are other available locations on the site.

- C. Landscaping. Within the hillside areas the landscaping of homesites and cutbanks, etc. should utilize natural and fire retardant vegetative species indiginous to the area.
- D. Utilities. Throughout the hillside areas power and telephone lines should be undergrounded to the extent feasible. Street lights, if necessary, should be of low level intensity and low in profile.

#### Implementation Measures

- 1. Conduct a more precise study of the Hillside Open Space area to determine the true development potential of the area. Such a study should include the following:
  - a. Preparation of topographic mapping at a minimum contour interval of five feet.
  - b. Development of geologic and soils engineering data.
  - c. Identification of suitable areas for individual building sites and/or building cluster areas.
  - d. Identification of areas of permanent open space.
  - e. Identification of suitable and aesthetically sensitive roadway alignments that would provide for an integrated hillside circulation system (if, and where possible).
  - f. Development of a Resource Development and/or Management Plan for the net residual open space areas within the Hillside Open Space area.

### 3.2.4 Natural Watercourses

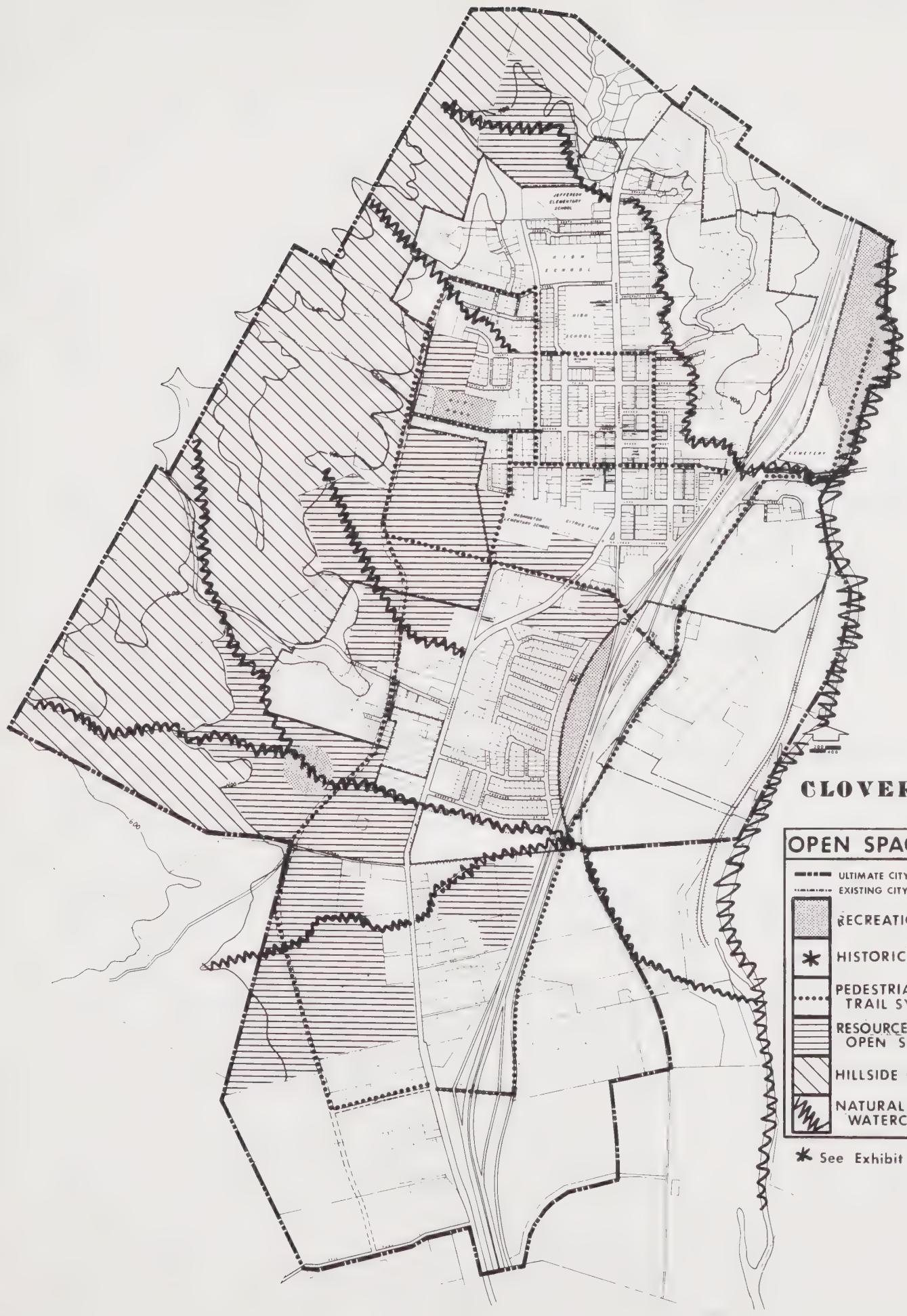
The natural watercourses that traverse the City of Cloverdale are indicated on the Open Space and Conservation Plan. These waterways serve as both important vegetative and wildlife habitat areas as well as day to day visual reminders of the forces of nature at work. Perhaps the greatest example of this is that evidenced by the Russian River which functions as a major component of the City of Cloverdale's community aesthetic. The continued maintenance of the Russian River and it's various tributary watercourses as natural elements in an area of expanding urbanization is the focus of their inclusion as integral elements of the city's open space planning efforts.

#### Policy Objectives

1. Preserve the Russian River in its natural state as an important local and regional recreational resource, wildlife habitat, and biotic community.
2. Maintain the water quality of the Russian River by requiring that all discharges into the river by the City of Cloverdale and/or members of the industrial community in the immeidated Cloverdale environs meet and satisfy discharge regulations of the California Regional Water Quality Control Board.
3. Explore the multi-use potential of the natural water courses through the City as public access corridors for bicycle and/or pedestrian trail systems through their dedication or purchase by the City of Cloverdale.

### Implementation Measures

1. Maintain strict adherence to the natural watercourse set-back delineation as set forth by City Ordinances 338 and 343.
2. Minimum set-backs along natural watercourses above the 400 foot contour elevation should be a minimum of 100 feet as measured horizontally from the bank of the stream.
3. Adopt and enforce appropriate flood plain zoning regulations consistent with survey elevations as provided by the Army Corps of Engineers and the Sonoma County Water Agency.
4. Encourage the use of on-site natural surface drainage techniques within proposed developments as a means to economically and efficiently handle surface run-off and to maintain the "health" and traditional function of the natural watercourses.



## CLOVERDALE

Exhibit 3-1

OPEN SPACE PLAN	
-----	ULTIMATE CITY LIMITS
.....	EXISTING CITY LIMITS
RECREATION AREA	
*	HISTORIC LANDMARK
.....	PEDESTRIAN-BICYCLE TRAIL SYSTEM
	RESOURCE-RESIDENTIAL OPEN SPACE
	HILLSIDE OPEN SPACE
~~~~~	NATURAL WATERCOURSE

\* See Exhibit 3-2



## APPENDIX 3-A

### CLOVERDALE HISTORICAL SOCIETY

P.O. Box 488

Cloverdale, Calif. 95425

October 4, 1977

John Taylor  
Planning Coordinator  
City of Cloverdale  
City Hall  
Cloverdale, California 95425

Dear Mr. Taylor:

We are pleased to put into your hands a compilation in which are assembled many of Cloverdale's most interesting and historically significant structures. The intent has been to bring together a list encompassing those buildings which are unique by reason of age, historical association, architectural character, or artistic merit so that these may be readily pinpointed and identified for future reference.

Cloverdale contains considerably more of those structures than the average resident, let alone the casual visitor, realizes are present in our community. Time, however, threatens them all and it is our responsibility to give recognition to their importance to us and to do what we can to assure their preservation.

They are, in fact, an asset which should be enthusiastically appreciated. They are in the first instance an integral part of our cultural heritage - the homes of the pioneers of the town, the sites of its history, and an architectural summary of its development. They range in style from modest, squarish homes in warm red brick through typical Victorian and post-Victorian frame structures covered with ornate embellishments and gingerbread which always seems to be expressions of taste and elegance.

They could, with development of promotional effort, be an important tourist attraction to the advantage of the entire community. This might be achieved by putting together a brochure outlining a tour of the principle structures and making it available to Chambers of Commerce and tour agencies throughout the Redwood Empire.

They are also, of course, an important part of our complement of housing. At a time when new construction costs are approaching the astronomical, it is a simple matter of arithmetic that these homes should remain habitable so that our residents may have shelter. To neglect them would be an economic disaster, and a cultural one as well for many certainly might very appropriately be designated historical landmarks or monuments.

Preservation is so important and urgent that it would appear that some relief could reasonably be afforded so that these aging structures might be kept in sound condition by their owners without incurring tax penalties for having done so. Failure to extend such an incentive would itself be a form of destructive neglect.

Sincerely,  
*Ruth M. Oeding*  
Ruth M. Oeding  
President

SURVEY OF OLD HOMES AND BUILDINGS IN CLOVERDALE  
BY CLOVERDALE HISTORICAL SOCIETY

3-B

xxxx built before 1890 or of superior architecture

xxx " 1900

xx " 1910

x " 1930

xxxx

1. 305 W. First St. - Built in about 1870's for Andrew Marion Ornbaum, early day pioneer, who owned a ranch near Booneville. In later years he and his daughter, Hattie, lived here until the end of their lives. Mr. Ornbaum died Jan. 3. 1945 at age of 102.

2. City Park - Just west of this park on private property is the remains of an old kiln where bricks were made, probably in the 1860's and used in some of the early homes and buildings.

xxxx

3. 205 N. Jefferson - Built for Clem and Louise Butler in the 1950's on site of an earlier Tom and Annie Wilson home, parents of Louise Wilson Butler. Note old wooden hitching post on front walk.

xxxx  
4. 206 N. Jefferson - South gable of this house built before 1884.

xxxx

5. 211 N. Jefferson - Built for Fred Yordi in the late 1880's. The back portion of this home was built much earlier. Originally it had a front porch and a picket fence. Note double bay windows of this Queen Anne style home.

xxxx  
6. 305 N. Jefferson - Built in 1862 this house is one of the oldest residences in Cloverdale. Mr. and Mrs. John Reed lived here in the 1880's.

xxxx  
7. 242 N. Jefferson - Tom Wilson home built prior to 1889. Bill Wilson and Louise Wilson Butler were born here. It has been added to but is built of bricks manufactured in Cloverdale.

xx

8. 304 N. Jefferson - Built before 1904.

xxxx

9. 310 N. Jefferson - Old brick house built of Cloverdale bricks probably in the 1870's.

xxx  
10. 409 N. Jefferson - Built in 1901 by George Coe for C.B. Smith, grandfather of Ernie Swanstrom.

xxxx  
11. 415 N. Jefferson - Old C.A. Thompson home. Probably built in the 1880's. Mr. Thompson was a carpenter.

xxxx  
11A. 791 N. Jefferson (on dirt road) - Built of redwood in the 1870's. In 1887 it became the home of Miss Emma Herrmann.

113. Further up this dirt road is the site of the old Linville Winery in about the 1890's.

x  
12. 321 N. Washington - Old Lightfoot house.

xx  
13. 317 N. Washington - Old Rufus Bentley home. Built before 1909.

xx  
14. South of 317 N. Washington - Mrs. Harriet E. McCulloch lived here in the 1920's.

x  
15. 305 N. Washington - Built for Charles B. and Ruby Reed Shaw about 1913. English architecture copied from English mansions.

xx  
16. 218 W. Third St. corner of Washington - Built in 1906. Mr. Coffee who was an editor of the Reveille lived here.

xxxx  
17. 241 N. Washington - Brick house made of Cloverdale bricks probably built in the 1870's. Mrs. Grayson lived here in 1911.

x  
18. 207 N. Washington - Built for George Imrie when he married Katherine Cooley in 1913.

xx  
19. 200 N. Washington - Built about 1905 or 1906. Dr. W.C. Shipley lived here in the 1920's. Note old metal hitching post on walk on Second St.

xx  
20. 213 W. Second St. - Built for Frank Yordi when he married Ethel Caldwell in 1906. George Cavalli lived here and owned Cavalli's grocery store in the 1920's.

xxxx  
21. 220 W. First St. - Built for Charlie Mitchell in the late 1800's.

xx  
22. 130 Commercial - Built before 1906 for Percy Wilson who owned a saloon where the First National Bank now stands. Oscar and Hazel Black lived here in the 1920's.

xxx  
23. North of Grange hall on Commercial St. - Old home of Daniel and Helen Wambold built before 1900. D.M. Wambold owned a grocery store at 209 N. West St. (now Cloverdale Blvd.).

xx  
24. 214 Commercial - Built for Carl Yordi before 1904. Later Mrs. Evelyn (John) Reed (Ruby Shaw's mother) lived here and Charles and Ruby Shaw lived next door (house has been torn down) until their new home was built on N. Washington St.

XXXX

25. 210 W. Third St. - Built about 1880.

XXXX

26. 119 W. Third St. - Probably built before 1884. Dr. Markell owned this home before 1904. Home of nurses for Dr. Shipley's hospital in 1920's.

XX

27. 241 N. Cloverdale Blvd. - Built about 1905 or 1906 for Dr. Grant. Used as an office and hospital by Dr. Shipley in the 1920's.

XXXX

27A. 224 N. Cloverdale Blvd. - Built about 1880 for H.B. and Sophia Christianson. Nick Ahrens who had his cigar factory on Cloverdale Blvd. from about 1907 to 1912 lived here at that time. The Carreys bought this home in 1921 from George Gowan.

X

28. 307 N. Cloverdale Blvd. - This house was owned by Mrs. Charlie Harris in 1914. It was bought by James Harland and Alida May Groves in the early 1920's.

XXXX

29. 306 N. Cloverdale Blvd. - Old Jotham and Caroline Yordi Sedgley home built about 1870.

X

30. 318 N. Cloverdale Blvd. - Built for Mr. and Mrs. Benny Dunn about 1916 or '17. Ben Hoyle, son of Judge Hoyle, lived here with his grandparents and attended Cloverdale schools.

XX

31. 311 N. Cloverdale Blvd. - Built about 1904 for O.C. and Bertha Williams. Mr. Williams had a plumbing business in the 1920's.

XX

32. 315 N. Cloverdale Blvd. - Built in 1908 by George Coe. Gus and Charlotte Grant lived here in the 1920's.

XX

33. 321 N. Cloverdale Blvd. - Built about 1908 by George Coe. George E. Brush lived here in the 1920's.

XXXX

34. 325 N. Cloverdale Blvd. - Probably built before 1884. Dr. Markell lived here before 1896. In 1904 the Marshall sisters lived here.

XXXX

35. 405 N. Cloverdale Blvd. - Probably built before 1884. The Frank Thompsons lived here in the 1920's.

XXXX

36. 409 N. Cloverdale Blvd. - Probably built before 1884. In 1912 Mr. Koester, who owned a shoe store in Cloverdale, lived here and in the 1920's the Perazzos.

XX

37. 415 N. Cloverdale Blvd. - Built before 1904. At that time a Mrs. Knight H. Whipple lived here and later Fred Brush.

x  
38. 427 N. Cloverdale Blvd. - Colonial type home built in the 1920's for Mrs. Dan Dineen and her sister Miss Emma McConathy.

xxxx  
39. 437 N. Cloverdale Blvd. - Col. J.B. Armstrong home probably built for him before 1884. Col. Armstrong was one of the men who organized the first Citrus Fair in 1893. Armstrong Grove in Sonoma Co. was named in his memory.

xxxx  
40. 439 N. Cloverdale Blvd. - Congregational Church and parsonage. It is the first church organized in Cloverdale Jan. 17, 1869. The first building (back portion) was built in 1869 on land donated by James A. Kleiser. The parsonage was built in 1878. The new sanctuary was built in 1906, a gift from Mrs. Susan Chalfant as a memorial to her husband, John. Note stained glass windows with cluster of oranges.

xxx  
41. 521 N. Cloverdale Blvd. - Built before 1904. At that time Mr. Knowles lived here. In the 1920's Mrs. Isaphene Beasley lived here.

xxxx  
42. 720 N. Cloverdale Blvd. - Old Whitaker home built for Thomas Johnson in 1860 or before.

xx  
43. 606A N. Cloverdale Blvd. - Old Henry and Jennie Taylor Carrie home built before 1904.

xxx  
44. 562 N. Cloverdale Blvd. - Unknown.

xxxx  
45. 530 N. Cloverdale Blvd. - Built for State Senator John C. Holloway in the 1870's.

xxxx  
46. 522 N. Cloverdale Blvd. - Built for Murenos Stockwell probably in the 1860's or '70's. Mrs. Anna Stockwell joined the Congregational Church in 1885. In 1904 she and two daughters, teachers, lived here.

xxx  
47. 112 University - First orange tree planted in Cloverdale by Maryer-Jane Crawford. It was planted in 1869 and is growing through the roof.

xx  
48. 124 E. Fourth St. - Built by Joseph Lile and George Peppin for W. Tom Brush about 1907. In the 1920's his daughter, Pauline, lived in this home. Originally built on Cloverdale Blvd. it has been moved to this location and many changes made.

xxxx  
49. 314 N. Main - Old Abrams home built in 1870's. It was Mrs. Pinschower's girlhood home and Simon and Marian Pinschower lived here until their home was built in 1901. There is an old brick building probably made of Cloverdale bricks on the back of this property.

XXXX

50. 310 N. Main - Made of Cloverdale bricks probably in the 1870's. Mr. Johnson lived here in 1904 and worked on the railroad. The bricks have been covered with metal siding.

XX

51. N.E. corner N. Main and E. Third Sts. - Queen Anne home built for Simon and Marian Finschower in 1901.

X

52. 307 N. Main - Built in 1914 for Charles Sedgley.

XXXX

53. 219 N. Main - Built in 1887. In early days this block belonged to Dr. Bentley's parents. In 1904 Miss Allen lived here and gave music lessons.

X

54. 122 E. Second St. - Old home of Vital and Josephine Reger who owned a brewery making steam beer in 1898.

X

55. 118 E. Second St. - Old home of Marie Kaufgassner, daughter of Vital and Josephine Reger.

XXXX

56. 138 N. Main - Built before 1830 for John Goetzelman.

XX

57. Corner Broad and N. Main Sts. - Built for Michael and Mary Menihan in 1910.

XXX

57A. 118 Broad St. --- Built before 1896. Lou Tyler was born in this house.

XX

58. 122 N. Main - Vicarage Good Shepherd Episcopal Church built in 1907.

XXXX

59. 112 N. Main - Good Shepherd Episcopal Church built in 1888. Seats 74.

XXX

60. 214 Broad St. - Old Hixon home built before 1900. Has been modernized.

XXXX

61. 120 N. East St. - Old Stanley Brush home. This is part of five acres on which in 1856 R.B. Markle opened the first hotel in Cloverdale in a house owned by John Field. It became a stage coach stop and was called Cloverdale Hotel.

XXX

62. 421 N. East St. - Old Mooneyhan home built before 1900.

63. 104 N. East St. - Built in 1940's for Mr. Haselden on site of a very old home.

xxx  
64. 127 S. Main - Built before 1900. In the 1920's the Lloyds lived here.

x  
65. 133 S. East St. - Built by George Ghiotti about 1920. This is known as the old Henderson block on which he planted an orange grove.

x  
66. 130 S. East St. - Built in 1923 for Joe Ghiotti who planted the walnut trees here at that time. It was bought in 1926 by Domenico and Benedetta Ottoboni.

xxxx  
67. Corner of E. First St. and Mulberry St. - Old South Methodist Episcopal Church building now used by the Masonic Lodge. The South Methodist Church was organized in 1872. The first building was on the north side of E. First St. across from its present location. The North Methodist Church was located at that time on Lake St. and was organized about 1884. In about 1916 the North Methodist merged with the South Methodist and this building was moved to its present location. In 1917 Reverend Haselden was responsible for adding to the church on the west end and for acquiring in San Francisco the stained glass windows which are now covered for protection. The steeple has been removed for safety.

xxxx  
67A. E. First St., east of Railroad tracks on left - Riverside Cemetery started in 1860.

xxx  
68. 107 Mulberry - Built before 1900.

xx  
69. 115 Mulberry - Built in 1904 or '05 for Charlie Grant who was a section foreman on the railroad.

xxx  
70. 111 Mulberry - Built before 1900.

xxx  
71. 106 Mulberry - Built before 1900.

xxxx  
72. 122 Mulberry - Old Pardini home made of Cloverdale bricks probably in the 1870's.

xxx  
73. 123 Mulberry - Built before 1900.

xxx  
74. 125 Mulberry - Built before 1900.

xxx  
75. 216 S. East St. - Built in 1892 or earlier.

XX

76. 228 S. East St. - Old Feed Store built before 1904. It was owned by George Ghiotti in about 1916 when Italian dinners and dances were held here. Mr. and Mrs. Richard B. Hall owned and operated a feed store here from 1921 to 1943.

X

77. 154 Railroad Avenue - Depot Hotel built in 1920's.

XXXX

78. End of Railroad Avenue - NWP Railroad Station built in 1872 when the railroad tracks were extended to Cloverdale. It was originally the San Francisco and North Pacific railroad station. Constructed of vertical boards and battens it was designated an historical monument in 1976.

XXXX

79. 133 Railroad Avenue - Dante Hotel built of redwood in 1870's. It was the original railroad hotel and largest in Cloverdale at that time.

XXX

80. Behind The Grapevine on Railroad Avenue - Built before 1900.

XXXX

81. 219 N. Cloverdale Blvd. - Restaurant (Scandia). This wood building is in Italianate architecture. Note the tall square false front. This is the second oldest building in this part of town. The first Reveille plant was here in 1879; George Weston's Jewelry Store in 1912,

XXXX

82. 215 N. Cloverdale Blvd. - Old Isaac E. Shaw home built by a relative of Matilda Wambold Spaulding in the 1870's. It is Victorian Gothic made of bricks manufactured in Cloverdale and wood. The square nails used were made on the site from sheets of metal as needed. Note the gingerbread.

XXXX

82A. First National Bank parking lot - Site of brick building built by J.H. Bowman in 1880-81 of Cloverdale bricks which were manufactured west of City Park. At that time Shaw, Bowman Mercantile Co. was here and the Wells Fargo office. In 1884 six Cloverdale merchants organized the Cloverdale Banking and Commercial Co. taking over the former Wells Fargo office. In the rear was a large warehouse where tan bark was stored prior to shipping by rail. In about 1915 the building became known as the Grant Building.

XX

83. N. Cloverdale Blvd. at Second St. - First National Bank of Cloverdale built in 1907. Isaac E. Shaw was first president in 1884 of the Cloverdale Banking and Commercial Co. as it was then known.

XXXX

83A. In the south section (added when the bank was remodeled) of the First National Bank - Site of Nick Ahren's cigar factory. The Cloverdale Historical Society has the cigar making equipment. The W.C.T.U. drinking fountain was on the sidewalk here until 1972.

xx

93B: 120 N. Cloverdale Blvd. - Built about 1900. Charlie May's Drug Store was here in 1904; in 1915 Goldman's Drygoods Store.

xxxx

94. 119, 121 and 123 N. Cloverdale Blvd. - Old brick building made of bricks manufactured in Cloverdale about the 1870's. This building is shown to be in the Joseph A. Carrie block on the map of Cloverdale published in 1884. In 1904 it housed the post office at 121 and a grocery store owned by I.E. Shaw at 123 N. Cloverdale Blvd. In 1906 Dr. Grant operated a drug store at 119 N. Cloverdale Blvd.

xxxx

95. 117 N. Cloverdale Blvd. - Oldest commercial building in Cloverdale built before 1865. It was bought that year by Charlie Mitchell who later bought the saloon business of W.T. Brush. In 1905 Tom and his brother took over the saloon business from their father and ran it until 1915 when they sold the business to Joe Perazzo. From 1923 to 1945 Mitchell's Restaurant was here.

x

96. Druid's Building built in 1923. This is the site of the old Cloverdale Hotel which burned in 1915.

xxxx

97. N.W. corner W. First St. and Cloverdale Blvd. - Site of the old Union Hall which burned in 1915.

xxxx

98. 104 N. Cloverdale Blvd. - Site of old Thompson Livery Stable.

x

99. 119 S. Cloverdale Blvd. - Old Cloverdale Library built in 1921 by Eb. Bentley for the Women's Improvement Club on land donated by Mrs. Charles E. (Ida) Humbert.

xxx

100. Vacant lot between The Encore and Bank of America - Site of the Citrus Fair building built in 1897 by George Coe for the Citrus Fair Association. It burned July 17, 1909 and a new building patterned after it was built in 1909 for the 18th Citrus Fair in 1910. This building was used until the 49th fair which was held in the new building south west of here in 1951. The old building housed a furniture store and offices until it burned in Oct. 1969.

xx

101. 116 S. Cloverdale Blvd. - Site of old Orange City hotel built by John June about 1900.

xxx

102. South of Oaks Motel - Site of Charles E. and Ida Hoadley Humbert home built in 1900.

xxx

103. 111 Lake St. - Old Perry home built before 1900. Emma Perry McClary, grandmother of Marguerite McClary Bonnifield, lived here in the 1920's.

x  
94. Apartment house north of 209 S. Cloverdale Blvd. - Old Vadon home built in 1915 for Felecian B. and Marie Ardoin Vadon. It was converted to apartments in the 1970's.

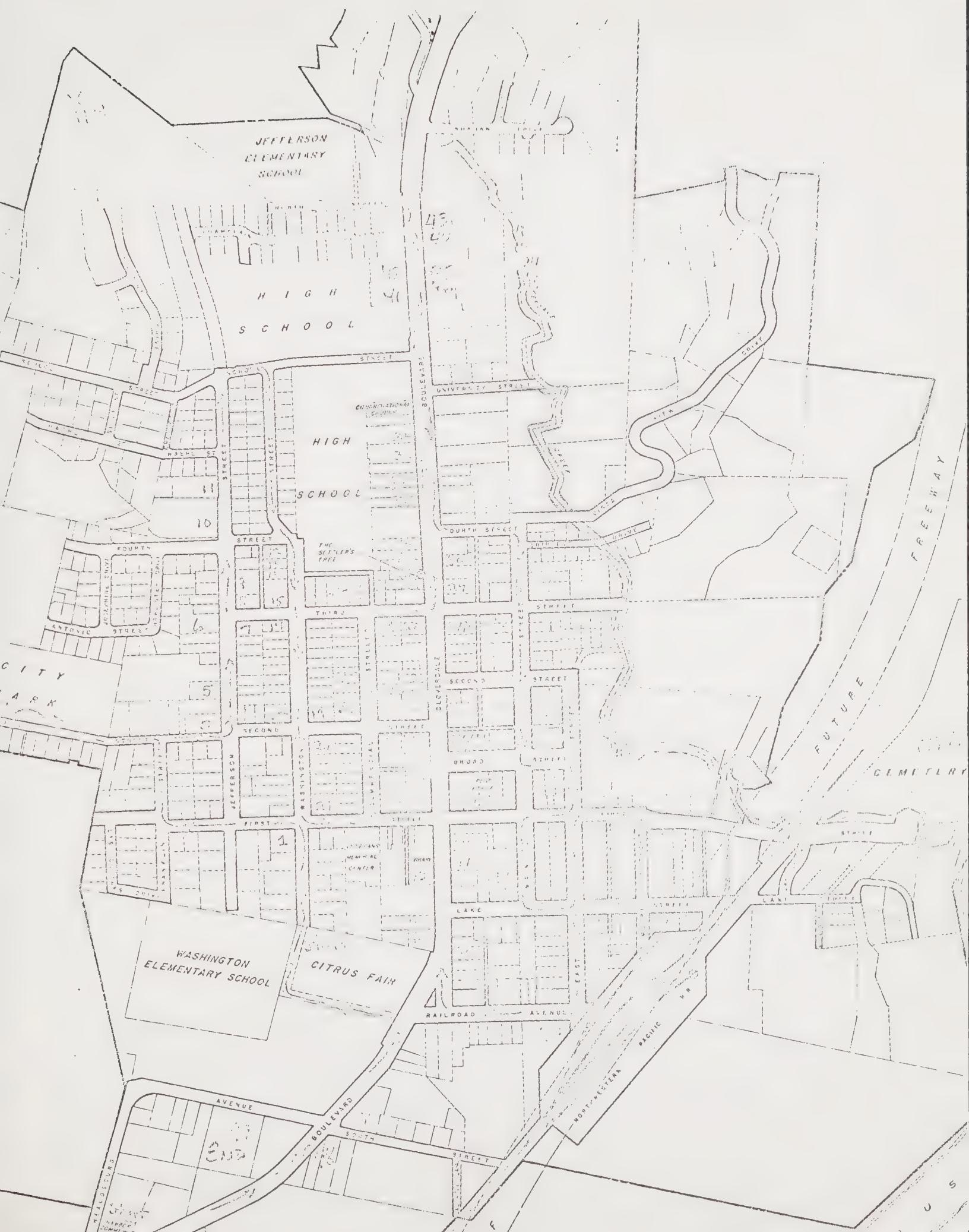
x  
95. 209 S. Cloverdale Blvd. - Site of Hulbert's Garage in 1915.

xxxx  
96. 216 S. Cloverdale Blvd. - Old Hulbert home. In 1908 Mr. Hulbert operated his bicycle shop in front of this home.

xx  
97. 112 South St. corner S.Cloverdale Blvd. - Built before 1910. In 1912 Morris Smith lived here.

xxx  
98. 101 South St. - Built before 1900. In 1912 Luella and Raymond Roberts lived here with their mother.

xxxx  
99. 131 Healdsburg Avenue - Built before 1890.





4.0  
SEISMIC/SAFETY ELEMENT



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APPENDIX

4-A	CALIFORNIA PUBLIC RESOURCES CODE, SECTIONS 4291-4296 AND 4371-4375
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#### 4.0 OVERVIEW

Government Code Section 65302 (f) and 65302.1 requires a Seismic/Safety Element within all city and county general plans. As further defined in state law the content of a Seismic/Safety Element is defined as follows:

A seismic safety element consisting of an identification and appraisal of seismic hazards such as the susceptibility to surface ruptures from faulting, to ground shaking, to ground failures, or to the effects of seismically induced waves such as tsunamis and seiches.

The seismic safety element shall also include an appraisal of mudslides, landslides, and slope stability as necessary geologic hazards that must be considered simultaneously with other hazards such as possible surface ruptures from faulting, ground shaking, ground failure and seismically induced waves.

A safety element for the protection of the community from fires and geologic hazards including features necessary for such protection as evacuation routes, peak load water supply requirements, minimum road widths, clearances around structures, and geologic hazard mapping in areas of known geologic hazard.

The objective of this element is to introduce safety considerations in the planning process in order to reduce loss of life, injuries, damage to property, and economic and social dislocation resulting from fire and dangerous geologic occurrences.

#### 4.1 GOAL STATEMENT

Goal: To reduce to acceptable levels the degree of risk from geologic, flood, and fire hazards to life, property, public investment, and social order in the community of Cloverdale.

Objectives: 1. To determine relative risk in various parts of the City as a guide to new development and hazard abatement.

2. To aid in the determination of future land uses within zones of potentially higher risk.
3. To insure that structures for human occupancy, critical structures (such as hospitals), and other vital emergency facilities are designed to minimize damage from potential hazards so as to continue to function during an emergency.
4. To encourage public awareness of geologic, flood, and fire hazards.

#### 4.2 LEVELS OF ACCEPTABLE RISK

The Seismic/Safety Element of a general plan must identify the level of acceptable risk associated with safety hazards that lie within the jurisdictional boundaries of the plan.

The problem of risk determination is one of public policy relative to the recognition of hazards and the allocation of public resources to mitigate the immediate and/or potential effects of those hazards.

The central question is "how safe is enough?"

As defined by the state, these are the three levels of risk:

- Acceptable Risk - The level of risk below which no specific action by local government is deemed to be necessary.
- Unacceptable Risk - The level of risk above which specific action by government is deemed to be necessary to protect life and property.
- Avoidable Risk - Risk not necessary to take because individual or public goals can be achieved by other means without taking the risk.

There is no such thing as a hazard free environment, as natural and man-made hazards are always present to some degree. As such, the determination of acceptable risk depends on the definition of natural events in terms of magnitude and frequency: the extent and frequency of a flood, the area consumed by wildfire, or the rating of an earthquake.

#### 4.3 IDENTIFIABLE HAZARDS

There are four basic types of hazards outlined in this element. More specifically, they are:

##### 1. Geologic Hazards

Seismic Shaking  
Landslides/Slope Stability

##### 2. Fire Hazards

##### 3. Flood Hazards

##### 4. Structural Hazards

###### 4.3.1 Geologic Hazards

Seismic Shaking. The most severe potential seismic hazard is ground shaking and its effects upon structures. The California State Division of Mines and Geology has concluded that potentially damaging ground shaking (modified Mercalli intensity VII) may be expected to occur an average of once about every 20 to 30 years. Generally, areas of bedrock exhibit the least sensitivity to seismic shaking, whereas water-saturated deep alluvial sites are the most seismically sensitive areas.

In Cloverdale, the area below the 400 foot contour elevation is comprised of Holocene alluvial deposits of between 0 to 50 feet in depth. The average depth to ground water in this area is approximately 20 to 30 feet. Since alluvial deposits are relatively shallow, seismic shaking and liquification hazards within this area are considered to be moderately low.

Similarly, the lands above the 400 foot contour elevation exhibit characteristics of generally minimal seismic shaking and liquefaction hazard. There may be local deposits of slope-wash colluvium and alluvium which are subject to collapse during an earthquake of significant magnitude. Such seismically induced slope failures may be a problem in areas exceeding 15% slope.

Landslides/Slope Stability. In 1974 the California Division of Mines and Geology conducted a broad scale evaluation of slope stability and landslide susceptibility within Sonoma County. Based upon this investigation it was concluded that in the Cloverdale vicinity, the underlying geologic units, slope, and incidence of landslides (generally) above the 400 foot contour are most susceptible to landslides and slope failure. (See Exhibit 4-1, Hazardous Areas Map). Conversely, areas below the 400 foot contour characterized by gentle slopes and alluvial deposits are most stable.

Level of Risk. Areas of alluvial deposits in the valley floor and below the 400 foot contour exhibit stable conditions relative to seismic shaking, and/or landslide potential. The level of risk is defined as being acceptable and no specific public policy response relative to mitigation measures, beyond normal application of the Uniform Building Code, appears necessary.

Areas above the 400 foot contour elevation, as shown on the Hazardous Areas Map, exhibit adverse slope stability characteristics that warrant added public policy response to any development proposal. The level of risk involved in these upland areas is determined to be unacceptable, and mitigation measures are required.

#### Public Policy Mitigation

1. Require geologic reports identifying unstable slopes and other seismic hazards that could affect potential building sites, prior to the approval of a final subdivision map or the issuance of a building permit in areas of unacceptable seismic risk.
2. Chapter 70 of the Uniform Building Code should be fully enforced.

#### 4.3.2 FIRE HAZARDS

The area designated on the Hazardous Areas Map as Fire Hazard contains those lands of high or extreme hazard rating on the Fire Hazard Severity Scale for California Wildlands. As indicated by Table 4-1, fire hazard severity is a function of three criteria: a) fire weather, b) fuel loading (vegetation) and c) slope, defined as follows:

##### a) Fire Weather

Fire weather includes three classes - low, high and extreme - each related to the frequency of critical fire weather days occurring in each of the state's

Fire Danger Rating Areas over a 10 year period.

The Cloverdale area has a fire weather frequency rating of Class II (high) and can expect an annual average of between 1 to 9.5 days of high fire weather.

b) Fuel Loading

Fire intensity depends largely upon the quantity of vegetative fuel available for burning (fuel loading). Discussion with the Cloverdale Ranger Unit of the California State Division of Forestry confirms that the fuel loading type in the western foothills of the city can be classified as Heavy.

c) Slope

Fires burn faster upslope than downslope; the steeper the slope, the greater will be the rate of fire spread. In addition, slope in combination with solar heating and cooling is responsible for small scale, local winds blowing up or down slopes which may cause fire to spread more rapidly. The average cross slope of the foothill development area to the west of the City of Cloverdale approximates slopes upwards of 25% - 35%.

Topographic features of an area dictate the method of attacking a fire. As slope increases the effectiveness of mechanized fire fighting equipment decreases.

TABLE 4-1  
FIRE HAZARD SEVERITY SCALE

Critical Fire Weather Frequency	I			II			III		
	% Slope			% Slope			% Slope		
Fuel Loading	0-40	41-60	61+	0-40	41-60	61+	0-40	41-60	61+
Light (Grassland)									*
Medium (Scrub, Brush)			*	*	*	*	**	**	**
Heavy (Woods, Brushwood)	*	*	*	*	**	**	**	**	**

Moderate
 High Hazard
 Extreme Hazard

Source: A Fire Hazard Severity Classification System  
For California's Wildlands, by the California  
 Department of Conservation, Division of Forestry,  
 1973.

Level of Risk. Risk is the chance of fire starting as determined by the presence of causative agents. The causative agents in most cases are man, his equipment, and his facilities. It is estimated that approximately 90% of all wildland fires are man caused with the remaining 10% started by lightning.

Relative to the present undeveloped nature of the foothills and the very low incidence of wildfire in the past, the introduction of residential development (at any density), into this area reflects a decision that greatly increases the risk of fire. As such, the level of risk relative to fire hazard in the foothill development area west of the Cloverdale incorporated city limits is defined as Unacceptable unless effective mitigation measures can be implemented.

#### Public Policy Mitigation

1. Require a total systems approach to wildfire and structural fire mitigation in those areas defined as having unacceptable levels of fire risk. All development proposals within this area should have early input by the Cloverdale Fire Department and the Cloverdale Ranger unit of the California State Division of Forestry relative to the following:
  - a. Determination of an acceptable level of compliance with the California State Public

Resources Code, Sections 4291-4296 and 4371-4375. (See Appendix 4-A).

- b. Provision for acceptable circulation systems, access routes, and other points of property entry for emergency vehicles.
- c. Provision of adequate water supply and delivery systems including fire hydrants and/or stand-pipes with sufficient water pressure and fire flows pursuant to I.S.O. Ratings.

#### 4.3.3 FLOOD HAZARDS

Relative to flood hazards, the delineation recognized for flood control and flood plain planning and management is that of the 100 year flood. More precisely, the Flood Hazard area indicated on the Hazardous Areas Map reflects the extent of a 100 year flood interval for the Russian River as mapped by the U.S. Army Corps of Engineers for the Federal Insurance Administration.

Level of Risk. As Russian River flooding is a clearly recognized hazard and a constraint to development, the the level of risk associated with the flood plain is determined to be both Unacceptable and Avoidable.

#### Public Policy Mitigation

1. Interim F-2, Secondary Flood Plain Zoning, should be adopted and applied to those lands lying within the 100 year flood delineation along the Russian River.

2. Subsequent to precise survey delineation of the Russian River flood plain, both Primary (F-1) and Secondary (F-2) Flood Plain Zoning should be adopted.

#### 4.3.4 STRUCTURAL HAZARDS

Structural Hazards apply to those man-made elements within the environment (such as hospitals, fire stations, power and utility facilities, etc.) whose continued functioning during and after a major earthquake is of great importance.

Critical community facilities require special structural attention to decrease risk and to ensure continued availability to the public during times of emergency. Table 4-2 shows a priority grouping of critical and non-critical facilities and the recommended design levels to withstand a design earthquake.

#### Public Policy Mitigation

1. Maintain an ongoing program of structural inspection by the Cloverdale Public Works Department on a priority basis of
  - a. Critical facility/emergency
  - b. Critical facility/non-emergency
  - c. Non-critical facility
2. Require upgrading of critical facilities as determined by structural review to withstand a "design earthquake" occurrence.

3. Develop and maintain seismic disaster emergency preparedness plans.
4. Conduct periodic exercises to ensure that all City departments will respond efficiently and in a coordinated fashion during earthquake, fire, or flood emergency.
5. Work closely with the Cloverdale Unified School District in developing a comprehensive disaster relief planning program.
6. Critical facilities should be discouraged from locating in areas of seismic hazard risk.
7. The City should work closely with the County of Sonoma's Office of Emergency Services in the revision and update of the County Emergency Plan.

## CLOVERDALE

Exhibit 4-1

### HAZARDOUS AREAS

— ULTIMATE CITY LIMITS  
- - - EXISTING CITY LIMITS

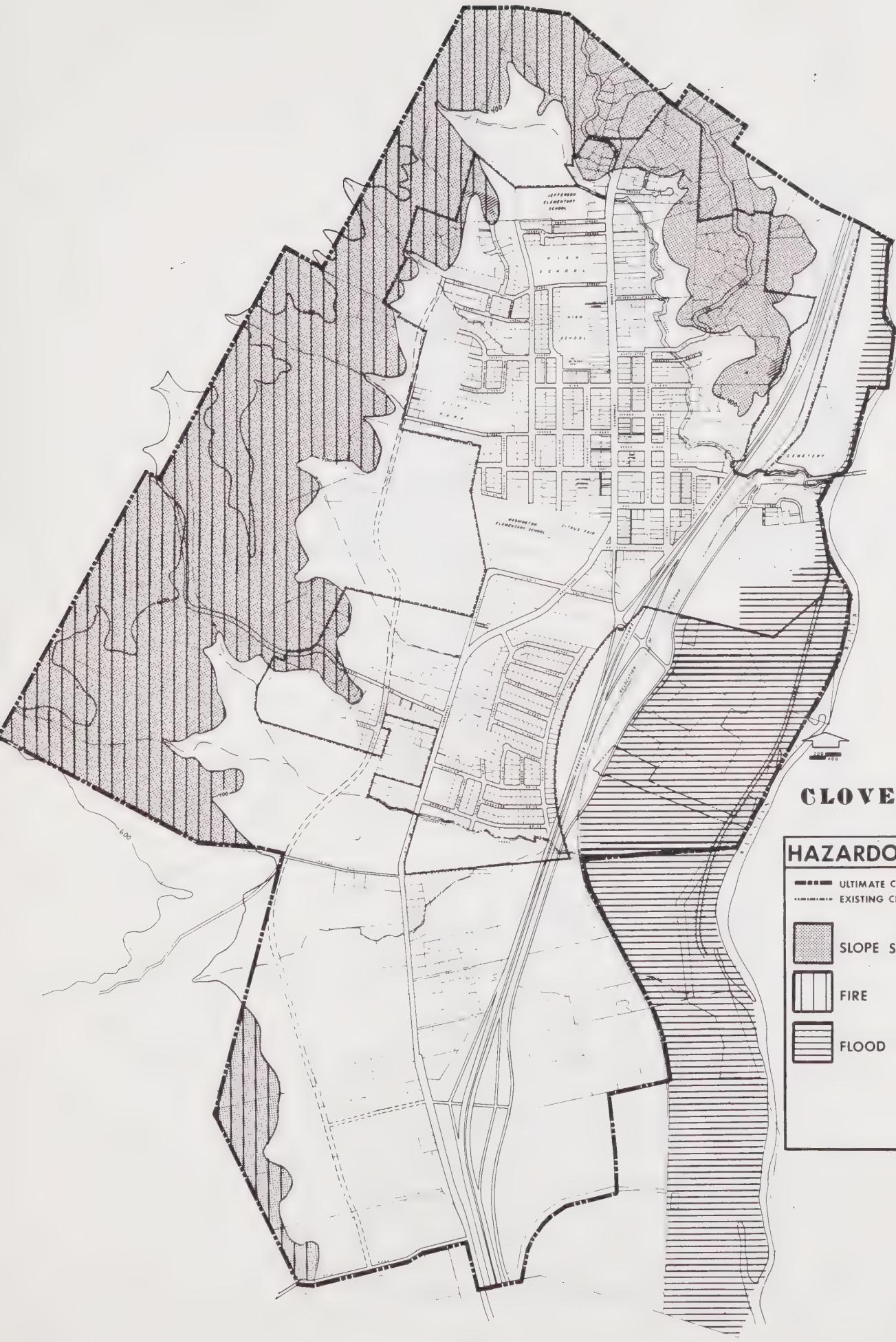
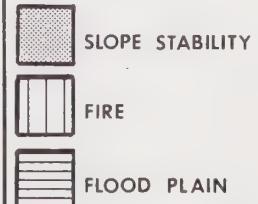




TABLE 4-2  
CLASSIFICATION OF CRITICAL STRUCTURAL FACILITIES  
CITY OF CLOVERDALE

Facility/Activity	Category	Structural Design Level	Design Earthquake
Hospitals, fire stations, police stations, Civil Defense Headquarters, gas, electric water utility lines, ambulance services, emergency communication centers, power plants, sewage treatment plants.	Critical/Emergency Response	Functional	7.5 8.0 Maacamas Fault San Andreas Fault
Schools, theaters, auditoriums, utility sub-stations, major highway bridges, grade crossings, libraries and other buildings used as civil defense shelters, public assembly facilities of 100 or more capacity.	Critical/Non-Emergency Response	Non-Collapse	7.5 8.0 Maacamas Fault San Andreas Fault
All Others	Non-Critical	Non-Collapse	7.5 8.0 Maacamas Fault San Andreas Fault

## § 4253

## PUBLIC RESOURCES CODE

## Amendments:

1976 Amendment: Substituted "director" for "State Forester".

**§ 4291. Duties as to firebreaks, vegetation, and structures**

Any person that owns, leases, controls, operates, or maintains any building or structure in, upon, or adjoining any mountainous area or forest-covered lands, brush-covered lands, or grass-covered lands, or any land which is covered with flammable material, shall at all times do all of the following:

- (a) Maintain around and adjacent to such building or structure a firebreak made by removing and clearing away, for a distance of not less than 30 feet on each side thereof or to the property line, whichever is nearer, all flammable vegetation or other combustible growth. This subdivision does not apply to single specimens of trees, ornamental shrubbery, or similar plants which are used as ground cover, if they do not form a means of rapidly transmitting fire from the native growth to any building or structure.
- (b) Maintain around and adjacent to any such building or structure additional fire protection or firebreak made by removing all brush, flammable vegetation, or combustible growth which is located from 30 feet to 100 feet from such building or structure or to the property line, whichever is nearer, as may be required by the director if he finds that, because of extra hazardous conditions, a firebreak of only 30 feet around such building or structure is not sufficient to provide reasonable fire safety. Grass and other vegetation located more than 30 feet from such building or structure and less than 18 inches in height above the ground may be maintained where necessary to stabilize the soil and prevent erosion.
- (c) Remove that portion of any tree which extends within 10 feet of the outlet of any chimney or stovepipe.
- (d) Maintain any tree adjacent to or overhanging any building free of dead or dying wood.
- (e) Maintain the roof of any structure free of leaves, needles, or other dead vegetative growth.
- (f) Provide and maintain at all times a screen over the outlet of every chimney or stovepipe that is attached to any fireplace, stove, or other device that burns any solid or liquid fuel. The screen shall be constructed of nonflammable material with openings of not more than one-half inch in size.
- (g) The director may adopt regulations exempting structures with exteriors constructed entirely of nonflammable materials, or conditioned upon the contents and composition of same, he may vary the requirements respecting the removing or clearing away of flammable vegetation or other combustible growth with respect to the area surrounding said structures.

No such exemption or variance shall apply unless and until the occupant thereof, or if there be no occupant, then the owner thereof, files with the department, in such form as the director shall prescribe, a written consent to the inspection of the interior and contents of such structure to ascertain whether the provisions hereof and the regulations adopted hereunder are complied with at all times.

Amended Stats 1976 ch 1300 § 58.

## Amendments:

1976 Amendment: Substituted (1) "director" for "State Forester" wherever it appears in subds (b) and (g); (2) "of" for "by" after "entirely" in subd (g); and (3) "department" and "director" for "State Forester" in the second paragraph.

**§ 4292. Firebreak, etc., around pole or tower of electrical line: Exclusion as to communication circuit: Permitting exceptions**

Except as otherwise provided in Section 4296, any person that owns, controls, operates, or maintains any electrical transmission or distribution line upon any mountainous land, or forest-covered land, brush-covered land, or grass-covered land shall, during such times and in such areas as are determined to be necessary by the director or the agency which has primary responsibility for fire protection of such areas, maintain around and adjacent to any pole or tower which supports a switch, fuse, transformer, lightning arrester, line junction, or dead end or corner pole, a firebreak which consists of a clearing of not less than 10 feet in each direction from the outer circumference of such pole or tower. This section does not, however, apply to any line which is used exclusively as telephone, telegraph, telephone or telegraph messenger call, fire or alarm line, or other line which is classed as a communication circuit by the Public Utilities Commission. The director or the agency which has primary fire protection responsibility for the protection of such areas may permit exceptions from the requirements of this section which are based upon the specific circumstances involved.

Amended Stats 1976 ch 1300 § 59.

## Amendments:

1976 Amendment: Substituted "director" for "State Forester" in the first and third sentences.

**§ 4293. Fire protection areas: Required clearance according to voltage: Cutting or trimming decayed trees: Permitting exceptions**

Except as otherwise provided in Sections 4294 to 4296, inclusive, any person that owns, controls, operates, or maintains any electrical transmission or distribution line upon any mountainous land, or in forest-covered land, brush-covered land, or grass-covered land shall, during such times and in such areas as are determined to be necessary by the director or the agency which has primary responsibility for the fire protection of such areas, maintain a clearance of the respective distances which are specified in this section in all directions between all vegetation and all conductors which are carrying electric current:

- (a) For any line which is operating at 2,400 or more volts, but less than 72,000 volts, four feet.
- (b) For any line which is operating at 72,000 or more volts, but less than 110,000 volts, six feet.
- (c) For any line which is operating at 110,000 or more volts, 10 feet.

In every case, such distance shall be sufficiently great to furnish the required clearance at any position of the wire, or conductor when the adjacent air temperature is 120 degrees Fahrenheit, or less. Dead trees, old decadent or rotten trees, trees weakened by decay or disease and trees or portions thereof that are leaning toward the line which may contact the line from the

#### § 4294. Exception as to self-supporting aerial cable

A clearing to obtain line clearance is not required if self-supporting aerial cable is used. Forked trees, leaning trees, and any other growth which may fall across the line and break it shall, however, be removed.

Added Stats 1965 ch 1144 § 9.6.

##### Cross References:

Acts or omissions constituting misdemeanor: § 4021.

#### § 4295. Exception as to person not having legal right to maintain clearing, etc.

A person is not required by Section 4292 or 4293 to maintain any clearing on any land if such person does not have the legal right to maintain such clearing, nor do such sections require any person to enter upon or to damage property which is owned by any other person without the consent of the owner of the property.

Added Stats 1965 ch 1144 § 9.6.

##### Cross References:

Acts or omissions constituting misdemeanor: § 4021.

#### § 4296. Exception as to line of 750 volts or less

Sections 4292 and 4293 do not apply if the transmission or distribution line voltage is 750 volts or less.

Added Stats 1965 ch 1144 § 9.6.

#### § 4371. "Permit": "Rubbish dump"

##### As used in this chapter:

- (a) "Permit" means a special permit to maintain, use or operate a rubbish dump which is issued by the department pursuant to this chapter.
- (b) "Rubbish dump" means any accumulation for the purpose of disposal of any rubbish, rags, paper, boxes, crates, excelsior, petroleum products or the residue thereof, fallen timber, slash, limb wood, branches, brush, grass, leaves, litter, or other combustible or flammable materials. It does not include slash from timber operations or the temporary piling of flammable materials which have accumulated from clearing while the construction or operation is in progress in conjunction with public works, utility, or other industrial projects where such accumulation is located wholly within the exterior limits of such projects.

Amended Stats 1976 ch 1300 § 62.

##### Amendments:

1976 Amendment: Substituted "department" for "State Forester" in subd (a). }

#### § 4372. Operation of dump under and pursuant to permit

A person shall not maintain, use, or operate any rubbish dump outside of the exterior boundaries of any city unless he has a permit to do so issued by the department and the rubbish dump is maintained, used, or operated in strict accordance with the terms and conditions prescribed in the permit.

Amended Stats 1976 ch 1300 § 63.

##### Amendments:

1976 Amendment: Substituted "department" for "State Forester".

### § 4373. Terms of permit: Duty of owner or operator

The department may include in the terms of the permit provisions for the prevention of uncontrolled fire. These terms may include, but are not limited to, the requirements set forth in Section 4374. The responsibility for obtaining the permit for rubbish dumps is that of the owner or operator or jointly. The permit which is issued by the department pursuant to this chapter does not relieve the owner or operator from the duty of securing any other type of permit which is required by law or any rule or regulation.

Amended Stats 1976 ch 1300 § 64.

Amendments:

1976 Amendment: Substituted "department" for "State Forester" wherever it appears.

### § 4374. Minimum clearance of flammables

A rubbish dump shall not be maintained or operated, without providing a clearance of flammables for a minimum distance of 150 feet from the periphery of the accumulation of the rubbish dump. If any structure or building is located within 150 feet of the periphery of the accumulation, the area within a minimum of 100 feet of the periphery of the structure or building shall also be maintained clear of all flammables. Notwithstanding the foregoing, a rubbish dump maintained in a fireproof container and used primarily as a concentration for transport for final disposition of rubbish shall maintain a minimum clearance of flammable material for a distance of 30 feet from the periphery of said container.

Added Stats 1965 ch 1144 § 9.6; Amended Stats 1969 ch 135 § 1, effective May 27, 1969.

Amendments:

1969 Amendment: Added the third sentence.

### § 4375. Dump constituting public nuisance

Any rubbish dump which is maintained or operated in violation of this chapter is a public nuisance.

Added Stats 1965 ch 1144 § 9.6.

Cross References:

Nuisance generally: CC §§ 3479 et seq.

Action for abatement of nuisance: CCP § 731.

Public nuisance defined: Pen C § 370.

Collateral References:

*Law Review Articles:*

Environmental protection; specific powers of county attorneys. 14 Santa Clara Law 308.



5.0

PARK AND RECREATION ELEMENT  
CITY OF CLOVERDALE



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## 5.0 OVERVIEW

Central to the sense of community and maintenance of the quality of life within an urban environment is the provision for adequate passive and active recreational opportunities within a community. More specifically, the City of Cloverdale with its present population of 3600 people has been experiencing increasing demand on its limited parks and recreational facilities, not only by its own resident constituency, but by outside groups, organizations, and individuals as well. With the anticipated doubling of the city's population as provided for in the General Plan, adequate provision for new and diversified city parks is of major significance.

It is the purpose of this element to analyze existing recreational facilities, determine recreational needs, and provide the public policy framework for future park and recreational decisions within the City of Cloverdale.

## 5.1 RECREATIONAL GOAL STATEMENT

- A. Provide for the conservation and preservation of open space for the recreational enjoyment of present and future population of the City of Cloverdale.
- B. Develop and maintain community parklands and facilities within the City of Cloverdale that provide for both active and passive recreational programs for individual and group enjoyment.

### 5.1.2 Short Term Objectives

- 1. Preserve and maintain Cloverdale City Park as a family oriented community park.
- 2. Develop Tarman Park into a 3 to 5 acre neighborhood park.
- 3. Develop the Wright Property into a local serving river-front park.
- 3a. Conduct preliminary park site planning and feasibility studies on Wright Property to determine both short-term and long term recreation utility.
- 4. Acquire and develop a new neighborhood park site of between 12-15 acres to meet future recreational demands.
- 5. Develop a Landmark Visitor Center as a multi-purpose recreational facility incorporating the Cloverdale Train Depot as the focal attraction.
- 6. Provide for a Cloverdale Community Center utilizing an existing facility such as the Veteran Memorial Building or by contracting a new facility.
- 7. Develop a pedestrian and/or bicycle trail system throughout the community linking recreational and cultural facilities.
- 8. Conduct a feasibility study with the County of Sonoma to determine the potentials for a joint City-County Regional Park within the immediate Cloverdale environs.

### 5.1.3 Recreation Policies

1. Encourage greater public recreational access to the Russian River within the City of Cloverdale.
2. Achieve geographically balanced distribution of public park land.
3. Provide programs that meet and satisfy the recreational needs of all population and age groups within the Cloverdale Regional Planning Area.
4. Provide for the most effective utilization of school buildings and grounds through the joint planning financing, acquisition and maintenance of recreational facilities.
5. Encourage the recognition and conservation of the community's historic landmarks and architectural significant buildings as a recreational and cultural resource.
6. Encourage innovative subdivision and housing designs that provide for on-site open space and recreational opportunities.
7. Encourage, where appropriate, the dedication and/or acquisition of areas along natural watercourses within the City of Clovrdale as creekside parks, where people may enjoy access to the creekside environment.
8. Encourage the establishment of the upper Russian River Regional Park by the County of Sonoma as a wayside park within the Cloverdale Regional Planning Area.
9. Support the development of Warm Springs Dam as a major recreational resource in the Cloverdale area.
10. Encourage coordinative efforts for joint park planning and implementation with the County of Sonoma and the State of California wherever possible.
11. Provide for periodic reviews and updating of recreational goals, objectives, policies, and standards to insure consistency over time.

12. Require the continual application of Ordinance 264, Section 6.02 as amended June 1, 1976, which requires the provision of funds for park land acquisition and recreation needs and/or dedication of lands for Park and Recreation purposes.
13. Encourage the development of a joint City-County Regional Park in the immediate Cloverdale environs.

## 5.2 RECREATIONAL NEED

Previous inventories of parklands, school facilities, and recreational equipment revealed that there are approximately  $\pm$  30 acres within the City devoted to such use. With the present 1977 city population of approximately 3600 people this 30 acre recreational resource yeilds a ratio of 8.3 acres of park and recreation land per 1000 population. However, nearly 23 acres of the 30 acre total is provided through the facilities of the Cloverdale Unified School District in the form of playing fields, stadiums, gymnasiums, etc. This is not to imply that these facilities are not valid recreational resources, but that the actual amount of City owned and maintained public park land facilities approximates only 7.25 acres, a ratio of only 2.01 acres per 1000 population.

With this in mind, it becomes necessary for the City of Cloverdale to re-assess its present posture on public park land acquisition and development in light of the anticipated growth and recreational demand expected to occur under the City's General Plan. Assuming a year 2000 population of upwards of 7000 people, a strict application of the "standard" of 10 acres per 1000 people would require an additional 60 acres of City park land if school facilities are not included, or an additional 40 acres of park land if school recreational facilities are included.

### 5.3 PARK STANDARDS

Table 5-1 offers a range of accepted standards of municipal park acreage use. As with all suggested standards there is a certain amount of associated arbitrariness due to unique local conditions of physical, social, and fiscal resources that may exist within a given locality at any give time. This is best exemplified by the various park acreage/1000 population ratios shown on Table 7-1, where total Neighborhood and Community Park standards range from 2.0 acres to 5.4 acres per 1000 population. Similarly, Regional Park standards range from 5 acres to 10 acres/1000 population.

Table 5-1  
COMPARISON OF PARK STANDARDS

Type of Facility	National Recreation Association	California Committee	Sacramento Metropolitan Area	Berkeley, California	Tacoma, Washington
<b>NEIGHBORHOOD</b>					
Effective Service Distance (miles)	1/4 - 3/8	1/8 - 1/4	1/4 - 1/2	1/4 - 3/8	1/4 - 1/2
Population served (000)	2 - 5	2 - 4.5	2 - 5	2 - 8	5 - 10
Size (acres)	8 - 15	8 - 18	8 - 12	3 - 12	5 - 10
Average Acres/1,000 population	3.3	4.0	2.3	1.5	1.0
<b>COMMUNITY</b>					
Effective Service Distance (miles)	1/2 - 1 1/2	1	1	3/4 - 1	1 - 1 1/2
Population served (000)	15 - 35	18 - 25	15 - 25	15 - 30	12 - 25
Size (acres)	15 - 40	24 - 37	25 - 40	12 - 17	12 - 25
Average Acres/1,000 population	1.1	1.4	.8	.5	1.0
<b>DISTRICT</b>					
Effective Service Distance (miles)	1 1/2 - 2 1/2	Each major portion of city	2 - 5	.....	Each major portion of city
Population served (000)	50	50	50 - 100	.....	40
Size (acres)	100 - 500	300+	100 - 300	.....	100+
Average Acres/1,000 population	6.0	6.0	4.0	.....	2.5
<b>REGIONAL</b>					
Effective Service Distance (miles)	Within 10 - 15 mile radius of city	10 - 30	10 - 30	.....	.....
Population served (000)	50 - 100	.....	100 - 500	.....	.....
Size (acres)	500 - 1,000	.....	500+	.....	.....
Average Acres/1,000	10	.....	5	.....	.....

Accordingly, a certain amount of discretion must be used by local decision makers in establishing reasonable and attainable standards for parkland acquisition and development. To be effective in any situation such standards should satisfy certain criteria:

- a. They must reflect the needs of the people being served in the specific area being served.
- b. They must be reasonably attainable.
- c. They must be acceptable and usable to both the practitioner and the policy maker.
- d. They must be based upon sound principles, and the best available information.

Within the above parameters, the following recreation standards offer practical and attainable goals consistent with the community's needs and capabilities. They call for the provision of active and intensive recreation opportunities by the City of Cloverdale for its own local population while relying upon the substantial regional recreational facilities in the immediate Cloverdale environs (Sand Banks Regional Park and Warm Springs Dam) for supplemental active and passive recreational opportunities.

Table 5-2  
 PARK STANDARDS  
 CITY OF CLOVERDALE

Local Park Standards	: <ul style="list-style-type: none"> <li>0.5 acres/ 1000 [Childrens Play Equipment]</li> <li>1.5 acres/ 1000 [Childrens Field Play]</li> <li>1.5 acres/ 1000 [Children/ Adult Field Sports]</li> <li>0.2 acres/ 1000 [Tennis, Basketball, Court Games]</li> <li>1.0 acres/ 1000 [Parking Facilities]</li> <li>0.2 acres/ 1000 [Administration, Community Center, Maintenaince, etc.]</li> </ul>
	<hr/> 5.0 acres/ 1000 TOTAL

Service Radius : 10 miles

Intent	: <ul style="list-style-type: none"> <li>Provide for extensive area for active and passive recreational opportunities supplemental to local park functions.</li> </ul>
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Regional Park Standards	: <ul style="list-style-type: none"> <li>5 acres/1000</li> </ul>	Picnicking Water Sports Equestrian Activities Nature Study, Hiking, Camping
	<hr/> 5 acres/1000	TOTAL

Service Radius : 10 miles

Intent	: <ul style="list-style-type: none"> <li>Provide for extensive area for passive and active recreational opportunities supplemental to local park functions</li> </ul>
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## 5.4 PARK AND RECREATION PLAN

The proposed Park and Recreation Plan for the City of Cloverdale is shown on Exhibit 5-1 . The accompanying text provides an elaboration of the existing and potential recreational issues surrounding each site.

### 5.4.1 Wright Property/ Riverfront Park

The  $\pm$  26 acre Wright Property represents an existing city owned potential park resource. The property is currently undeveloped and is used primarily as a well field accommodating several of the city's wells, pumps, and pump houses. The site is accessible from First Street and has approximately 1/2 mile of Russian River Frontage. Physically the site offers approximately 3 acres of usable, flat, high ground above the river (600x200 feet approximately). An additional  $\pm$  2 acres of riverwash (gravel) is available as "beach" frontage along the south-easterly portion of the site.

The site poses some difficulties in terms of access as only a single lane roadway extends to the interior 3 acre portion of the property. In addition, a steep cutbank along the entry driveway and along the river makes both the widening of the roadway as well as development of river access along the interior portion of the property considerably expensive.

In terms of its present availability to the city the Wright Property represents a major recreational resource. The property could function as a community oriented riverfront park facility. More specifically, the site should be gradually developed as a local serving park facility providing, in the short-term for non-supervised activities such as picnic areas, fishing, and passive natural areas. More intensive development of the site

to include a wider range of more active recreational opportunities such as water sports, playgrounds, etc. can be included over time as usership patterns, recreational demand, and the true developmental potential and /or constraint become apparent. The City's well facilities which are located on site represent a potential problem to the development of this park site. Any future park facility planning at this site will have to include an analysis of these well housings and how they might best be integrated into the site.

Attention should also be given to the utility of this park site as the nucleus for an expanded river front park including lands to the north and a linear parkway/trail facility to the south of First Street, providing over a mile of both active and passive recreational opportunities along the Russian River. Field investigation of the  $\pm$  30 acre parcel to the north of the Wright Property reveals that its potential as a park site offers several advantages: road access via McCray Road, extensive area of tree and vegetative cover suitable for picnics, and superior river access.

#### 5.4.2 Landmark Visitor Center

The site of the proposed Historic Landmark Visitor Center lies in the approximate location of the Railroad Avenue Freeway Interchange to the immediate south-east of the Cloverdale business district. It is intended that the function of the center would be multi-purpose in nature, incorporating the Cloverdale Train Depot (National Register of Historic Places) as the focal visitor attraction, while additionally housing the Chamber of Commerce offices, an information center, and a limited day-use picnic and stop-over area for the travelling public. As a secondary

but related function, the site could serve as a community service center providing a facility for the accommodation of on-going community activities, such as crafts, workshops, meeting rooms, etc.

It is also possible that future development of such a site could include provision for a trail linkage with a riverfront park facility. The conceptualization of potentiality is shown of the Recreation Plan. In such a manner limited access to the Russian River for the touring public could be achieved while still maintaining the Riverfront Park as a primarily local serving facility.

#### 5.4.3 Tarman Park

The expansion of the existing Tarman Park site into a neighborhood Park facility of approximately 3-5 acres appears feasible due to the availability of surplus state owned Freeway right-of-way abutting the park site to the east. Although there are certain development constraints associated with the property due to its elongated nature and proximity to the Freeway Bypass, the availability of this land to the City of Cloverdale at no cost and its location adjacent to a densely settled neighborhood of large household size warrants high priority as a potential park site. The improvement of this property into a Neighborhood Park would immediately provide relief to the existing City Park on Second Street which is at, or perhaps above, its functional capacity in terms of usership.

As this site cannot become available until after the railroad is relocated and Freeway Bypass constructed a preliminary site and recreational feasibility study should be conducted in the interim to insure efficient and economical development of the Tarman site.

Such a park site and feasibility study should include an analysis of on-site shelter, rest room, storage, and supervisorial facilities suitable for the conduct of a formal recreation program as well as preliminary design planning as to the nature and location of playing fields, playground equipment, parking, etc. Special attention should also be given to landscaping and the peripheral buffering of the site from adjacent residences.

#### 5.4.4 Porterfield Creek Neighborhood Park

A Neighborhood Park facility of between 12 to 15 acres in size is recommended in the general vicinity of the juncture of Foothill Boulevard and Porterfield Creek. Future acquisition of this site as a park could be accomplished in part through development dedication and/or public purchase.

The location provides for a recreational resource readily accessible to future residents in the southwesterly sector of Cloverdale. Its attributes include accessibility and linkage with the City Park and north Cloverdale residents via Foothill Boulevard, the incorporation of Porterfield Creek itself as a dynamic feature, and the lack of any physical constraints to recreational development. The site offers an expanded opportunity to provide for extensive playfields, off-street parking facilities, picnic areas, and other more intensive and active recreational pursuits. Development of this park site is contingent upon annexation by the City of Cloverdale and upon either acquisition by the City or dedication by private developers.

#### 5.4.5 City Park

The City Park facility on Second Street functions, at present, as the Cloverdale community park. Functionally, community level parks should provide a family oriented experience with recreational emphasis on picnicking, family activity, and specialized recreational facilities including swimming pools, multi-purpose courts, a community center, tennis courts, and adequate off-street parking.

With this in mind it is recommended that City Park be retained and continued to be developed or perhaps redeveloped into a traditional community park. More specifically, it is recommended:

- A. That single access to City Park via Second Street be retained as the principal access to the park.
- B. That only limited expansion of the City Park to the north be considered.
- C. That any such expansion of the City Park to the north be used only for recreational purposes.
- D. That the City investigate the feasibility of acquiring the vacant parcels immediately to the south of City Park along Second Street for additional user parking.
- E. That consideration both in the short-term and long-term be given to the abandonment of the baseball playing field at City Park when, and if, an alternative ballfield site or sites can be obtained at another location. This playing field represents approximately 3 acres that, in terms of community park potential, may be considered for more intensive recreational opportunities such as playing courts, swimming pool, a community recreation center, and/or supplemental parking area.

#### 5.4.6 Pedestrian/ Bicycle Trail

The inclusion of a Pedestrian/Bicycle Trail suggests an urban trail system within the City of Cloverdale that provides a loop of non-vehicular linkages between existing and potential park sites, school facilities, and the Russian River area. Recognition and improvement of such a trail system by the City should be viewed in terms of both a recreational feature and a potential transportation link between existing and future population centers and an eventual expanded local employment base to the south-east of the present City limits.

Realization of such a trail system would require the signing of routes, the striping of pavement to delineate bicycle lanes, and where necessary, the securing of easements and improving trail surfaces through areas of private ownership.

#### 5.4.7 Regional Park and Recreation Facilities

The City of Cloverdale recognizes the significance of two close-by regional recreational facilities that are anticipated to be created within the near future - the County of Sonoma's Sand Banks Regional Park and the Warm Springs Dam facility. In the context of developing a recreation plan for the Community these two regional facilities are recognized as local resources that will provide an expanded range of recreational opportunities that the City itself could probably not provide: boating, swimming, hiking, fishing, camping, and equestrian trails.

#### 5.4.8 Rolando City-County Regional Park (Optional)

During the course of the General Plan update process considerable interest has been shown in the potential of developing a joint City-County regional park in close proximity to the City of Cloverdale. More specifically, as conceptually expressed on the Park and Recreation Plan (Exhibit 5-1), such a facility could possibly be located in the general vicinity of Lake Street along the Russian River south.

This site represents a park potential of at least 20 acres immediately east of the downtown Cloverdale business district. Access to this site would be by Railroad Avenue in the short-term and eventually by the Freeway Bypass frontage road upon construction of the Bypass. Physically the site is predominantly level with some hill relief to the westerly extremes, and with the exception of this hillside area the on-site area is without

vegetative cover. Its main attributes are the expanded opportunity for Russian River recreational access, its centralized location within the local Cloverdale community, and the potential accessibility of the site to the traveling public via the Freeway Bypass.

Within the context of the Park and Recreation Plan this site is recognized as an optional park site. The expressed intent of such a designation is to encourage more thorough analysis and park planning participation on the part of both the Cloverdale community and the Sonoma County Regional Parks Department. Such analysis should focus on fiscal commitments relative to site acquisition, preparation, and development, the location and nature of recreational opportunities that could occur on-site, and the definition of the City-County relationship in such a venture relative to maintenance and security.

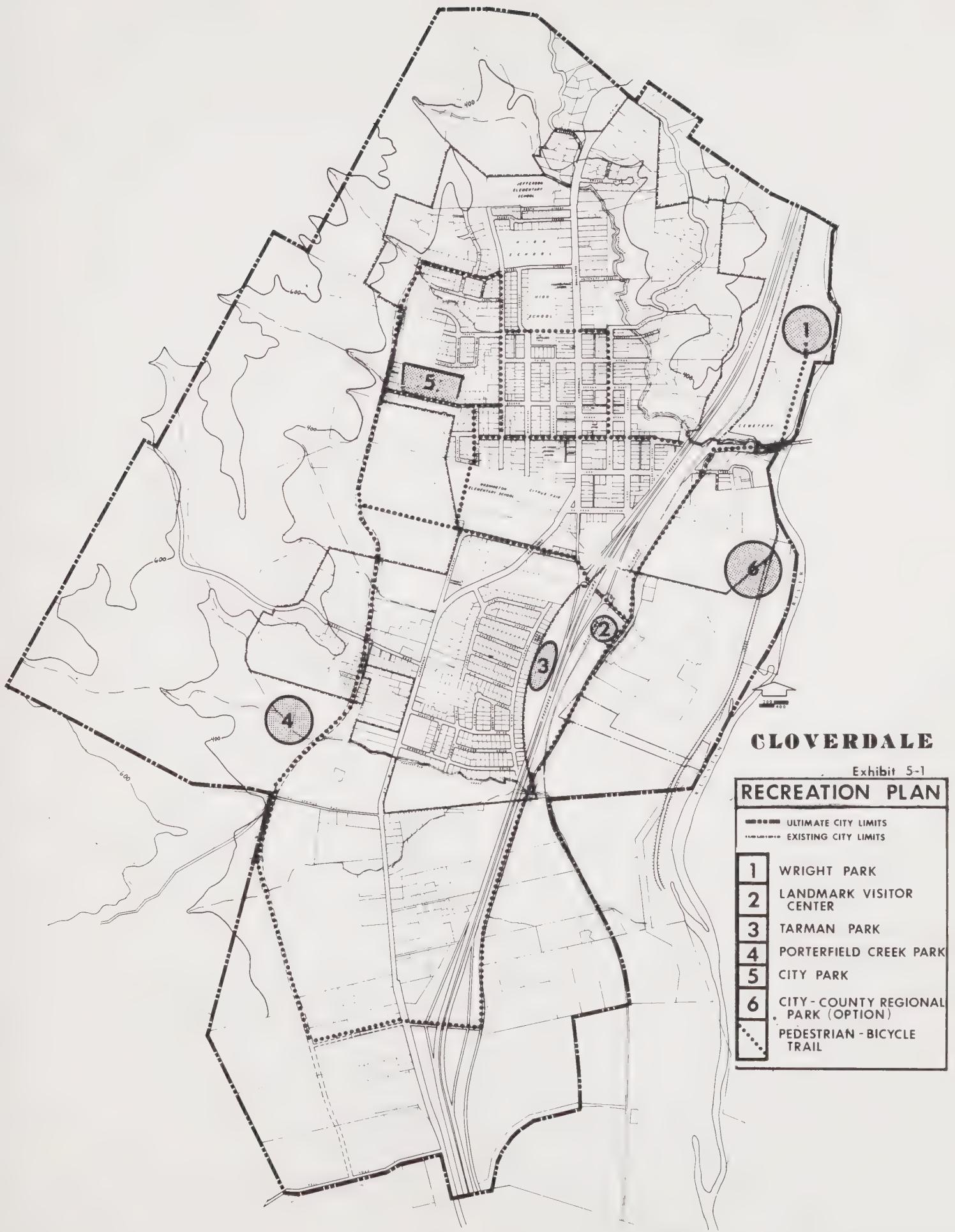
## 5.5 SUMMARY OF PARK PROPOSALS

Table 5-2 indicates that the ultimate implementation of a local park development program will yield an increase in recreation acreage from the existing  $7\frac{1}{4}$  acres upwards to between 29-57 acres (not including the  $\frac{1}{2}$ 20 acre Rolando City-County Regional Park Option). Applying the recommended local park standard of 5 acres/1000 population to these estimates results in a recreation ratio of between 4-9 acres/1000, based upon a year 2000 population of 7000 people.

As further evidenced by Table 5-2 the eventual construction and improvement of the Sandbanks Regional Park and the Warm Springs Dam will yield an additional 17,000 acres of passive recreational opportunities within a 10 mile radius of the City of Cloverdale.

Table 5-3  
SUMMARY OF PARK PROPOSALS

PARK/ FACILITY		EXISTING	PROPOSED
LOCAL PARKS	City Park	7 acres	8 acres
	Tarman Park	$\frac{1}{4}$ "	3-5 "
	Wright Park	0 "	5-26 "
	Porterfield Creek Park	0 "	12-15 "
	Landmark Visitor Center	0 "	1-3 "
	TOTAL	$7\frac{1}{4}$ acres	29-57 acres
REGIONAL PARKS	Sandbanks Regional Park	0 acres	40 acres
	Warm Springs Dam	0 "	17,000 "
	TOTAL	0 acres	17,040 acres





6.0  
CIRCULATION ELEMENT  
CITY OF CLOVERDALE



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## 6.0 OVERVIEW

Government Code Section 65302(b) requires that a circulation element be included in all city and county general plans. Specifically:

A circulation element consisting of the general location and extent of existing and proposed major thoroughfares, transportation routes, terminals and facilities, all correlated with the land use element of the plan.

The function of the Circulation Element is to establish a public policy framework for the design of a balanced circulation and transportation system providing safe, convenient and reliable travel within Cloverdale and to other parts of the Cloverdale Regional Planning Area.

Relative to the other mandated elements within the General Plan, the Circulation Element relates most closely with the Land Use Plan, Noise, and Scenic Highway Elements. The circulation system of a community is the primary determinant of future settlement patterns and development.

## 6.1 GOAL STATEMENT

GOAL: PROVIDE FOR A BALANCED CIRCULATION AND TRANSIT SYSTEM THAT MOST EFFICIENTLY SERVES THE ECONOMIC, SOCIAL AND ENVIRONMENTAL STRUCTURE OF THE CITY OF CLOVERDALE AND CLOVERDALE REGIONAL PLANNING AREA.

### 6.1.1 Regional Circulation

Objective 1 : Encourage the immediate construction of the Highway 101 Freeway Bypass.

Policy : Maintain close liaison with Federal Highway Administration and California State Department of Transportation.

Policy : Support all efforts and legislation that will assist in the unfreezing of state highway funds and immediate implementation of the Freeway Bypass project.

Objective 2 : Encourage the development of a regional highway system that will accommodate present and future traffic volumes safely and efficiently and improve access to population and employment centers, resource areas and recreational areas.

Policy : Encourage the acquisition and improvement of Kelly Road by the County of Sonoma as a new east-west access road to the coast and recreational link with Warm Springs Dam.

Policy : Encourage the implementation of the Sonoma County Transportation Plan. Specifically:

A. The improvement and upgrading of the Cloverdale-Geysers Road as a county collector and future access route to Lake County.

B. The improvement and upgrading of River Road as a County Arterial Road.

### 6.1.2 Circulation And Community Development

Objective 1 : Develop a local circulation system functionally related to the distribution of land uses and residential densities indicated on the Land Use Plan.

Policy : Require roadway designs and street capacities consistent with the character and land use intensity of adjacent land uses.

Policy : Provide for the reduction of adopted road standards (width, curb and gutter, sidewalks, etc.) where convincing evidence can be presented that such reductions can be achieved without public inconvenience or the impairment of public access and circulation.

Policy : Require adequate off-street parking facilities for all new residential development as a means of improving traffic flow and reducing unnecessary on-street parking.

Policy : Develop a safe and aesthetically sensitive roadway network throughout the Hillside Residential Area that is integrated in an orderly fashion with the City's existing circulation system.

Objective 2 : Protect residential neighborhoods from through traffic.

Policy : Encourage the routing of through automobile and truck traffic along major streets and away from the core of residential neighborhoods.

Policy : Encourage the development of a comprehensive and integrated circulation network throughout the Planning Reserve Areas.

Policy : Require efficient neighborhood circulation patterns which allow for direct access of service, emergency and transit vehicles, especially in the Hillside Residential Areas.

Policy : Ensure safe and convenient pedestrian crossings within residential neighborhoods.

Objective 3 : Develop a circulation system that is consistent with efforts to minimize adverse environmental effects.

Policy : Encourage the design of new roadways sensitive to existing land forms and natural features.

- Policy : Require adequate landscaping along all roadways. Require tree preservation where possible.
- Policy : Implement more stringent controls on road grading in hillside areas.
- Policy : Encourage the development of a circulation system that minimizes noise impacts within residential and other noise sensitive areas.

#### 6.1.3 Public Transit

- Objective 1 : Provide for the establishment of intercity and intercounty public transportation systems that are directed toward meeting the mobility needs of all segments of the community.
- Policy : Support the implementation of the Sonoma County Transportation Plan which calls for the development of both intracommunity and intercounty mass transit service.
- Policy : Support all legislation that will facilitate the development of public mass transit service to the City of Cloverdale.
- Policy : Encourage commuter car pooling as an effective means of energy conservation and reducing peak hour traffic volumes.

#### 6.1.4 Commercial And Industrial Areas

- Objective 1 : Provide the necessary circulation and parking facilities to insure the continued development and accessibility of the City's commercial areas.
- Policy : Require adequate off-street parking facilities consistent with demand.
- Policy : Encourage the landscaping of all off-street parking areas and the planting of street trees, planter boxes, etc. as a means of providing pedestrian buffer areas, providing color and visual relief, and breaking up the monotony of structural bulk and expansive parking lots.
- Policy : Ensure safe and convenient pedestrian crossings.

Policy : Require necessary roadway, parking, and pedestrian facilities to meet the specialized needs of the handicapped.

Objective 2 : Encourage continued industrial development by providing safe and efficient traffic flow and movement of goods throughout the City's heavy commercial and industrial areas.

Policy : Require adequate roadway widths, alignments, radii, turn arounds, parking areas, and loading facilities consistent with the access needs of large trucks and emergency service vehicles.

Policy : Develop an integrated circulation system in the City's industrial development areas that accommodates truck and service vehicle traffic with minimal impact upon residential streets and neighborhoods.

Policy : Require adequate buffering between service, commercial and industrial activities and adjacent residential land uses.

Policy : Promote the continued development and utilization of the Northwestern Pacific Railroad as a major industrial transportation resource.

Policy : Promote the continued development and utilization of the Cloverdale Airport as a major industrial and recreational transportation resource.

Policy : Continue to seek federal, state and other funding sources which provide funding for circulation and transportation related capital improvements for industrial development.

Policy : Encourage the early construction of the Bypass Frontage Road, independent of the Freeway Bypass if necessary, as the primary access route to the City's industrial area.

Policy : Encourage the relocation of the Northwestern Pacific Railroad switching yard to the south so as to more efficiently serve the City's industrial area.

## Bicycle and Pedestrian Trail Systems

Objective 1 : Develop safe and efficient bicycle routes and pedestrian trail systems throughout the City as a means of non-vehicular transportation and recreation.

Policy : Establish bicycle routes and pedestrian trail systems between recreation areas, residential areas, and commercial and employment centers.

Policy : Encourage the incorporation of bicycle and pedestrian trails into new developments, especially within the Planning Reserve Areas.

Policy : Provide for bicycle security in recreation areas, public places such as libraries, commercial areas and work centers.

Policy : Encourage implementation of the Sonoma County Bikeways Plan.

## 6.2 CIRCULATION AND TRANSIT ISSUES AND CHARACTERISTICS

### 6.2.1 Commutation And Mode Of Transportation

The 1975 Mid-Decade Census solicited responses relative to place of work and mode of transportation. The data (see Appendix 6A) indicates that the greatest percentage of both primary and secondary wage earners commute to a place of work within the north county region. As there is no public transit presently available to the City for work commutation, the private auto represents the primary mode of transportation.

Based upon 1976 estimates by the California State Department of Finance, Sonoma County averages 2.3 registered vehicles per household (includes autos, trucks, trailers, and motorcycles). Applying this average to the City of Cloverdale yields an estimated 3235 vehicles in 1977. Assuming this constant average through the year 2000, approximately 6500 vehicles could be expected to be registered within the City.

### 6.2.2 Regional Traffic Ways

Exhibit 6-1 provides a perspective of the highway network serving the Cloverdale region. The most significant regional circulation and transit corridor is that of Highway 101 which serves as the primary arterial linking the Bay Area with the greater Cloverdale and Redwood Empire area. This Cloverdale/Redwood Empire region is a major generator of recreational and tourist traffic statewide. Recreational destinations such as Fort Bragg, Lake Mendocino, and Clear Lake are all readily accessible from Cloverdale. Similarly, the Geysers Geothermal Resource Area and the local wineries along the scenic Alexander and Dry Creek Valleys serve as major attractions in the immediate proximity of the City. Perhaps most important are the future recreational and tourist travel demands that will be placed upon Highway 101 and Cloverdale when the proposed Warm Springs Dam is constructed. The Sonoma County General Plan's Transportation Element indicates that the construction of Warm Springs Dam would almost equal the Sonoma County Coastal Area or Russian River Area as a weekend traffic generator (see Appendix 6-B for weekend traffic forecasts along Highway 101).

Highway 101/Freeway Bypass. The absence of the Freeway Bypass of the City of Cloverdale (as adopted in 1959) remains the most significant circulation issue facing the community. Increasing traffic volumes along the present Highway 101/Cloverdale Boulevard alignment have reduced the capacity efficiency of this roadway to between marginal and unacceptable service levels - especially during peak recreational travel periods. The spinoff effects of the growing inefficiency of this major arterial include the extensive queing of north

and southbound motorists, the hampering of local east-west traffic movements within the community, the reduction of local emergency service response capability, and the generation of adverse noise and air pollution impacts. For a more detailed description of the project and analysis of environmental relationships see the Draft Environmental Statement for the Freeway Bypass of the City of Cloverdale as prepared by the Federal Highway Administration and California Department of Transportation, 1974. The report is on file in the administration offices of the City of Cloverdale.

Kelly Road. Although not recognized on the Sonoma County Highway Plan, the development of Kelly Road by the County of Sonoma is recognized as a necessary arterial link in the north county road network. Such an arterial would provide a superior east-west route for efficient access to the Sonoma County coastal area, provide relief to Highway 128, and coastal Highway 1, and provide needed supplemental recreational access to the Warm Springs Dam Recreation Area.

Geysers-Cloverdale Road. The upgrading of the Cloverdale leg of the Geysers-Cloverdale Road by the County of Sonoma is recognized as an important access link between the City of Cloverdale and the growing Sonoma and Lake County Geothermal Resource Development Area. The improvement of this route would facilitate employee access to the area, provide a superior truck route because of grade (less than 5% along entire route), improve emergency service response to the area, increase the attractiveness of the City of Cloverdale to geothermal related service industries, and serve as a major access route to Lake County.

The upgrading of this road as a collector road is recommended in the Circulation and Transit Element of the Sonoma County General Plan.

#### 6.2.3 Transit

The long range transit plan concept for Sonoma County is based upon an urban structure of community and city-centered growth. As proposed, the County Transit Plan will provide local service between residential areas and activity centers within communities and inter-community service between the activity centers of different communities. This is best illustrated by Exhibit 6-2, the Long Range Transit Plan for Sonoma County. Relative to Cloverdale the Long Range Transit Plan anticipates only low levels of intracommunity transit servicing the low mobility groups within the community (elderly, handicapped, and young persons), and a medium level of intercommunity transit, diverting some auto users (5-10% peak, 1-5% off-peak) to transit modes along the Highway 101 corridor.

Two transit system concepts are envisioned: Fixed Route Systems and Demand-Responsive Systems.

Fixed Route Systems. As the name implies, fixed route systems follow an established route picking up and discharging passengers at predetermined stops or randomly along the way. Presently the only fixed route transit serving Cloverdale is the Greyhound Bus which makes regular daily stops within the city. Discussion with the Golden Gate Bus Company reveals there are no immediate plans (5 years) to extend bus service to the Cloverdale area due to the economic constraints of distance and low ridership potential.

Demand-Responsive Systems. Demand-responsive transit systems have proved to be a feasible form of mass transit within many smaller communities which do not have the means of supporting a full time bus system (fixed route) and which lack any other form of public transportation. This transit system provides door-to-door service and is characterized by "dial-a-ride" or "dial-a-bus" operations.

The local "Care-A-Van" service, funded through the Cloverdale Hospital District, presently provides a limited form of a demand-responsive transit system within the city, providing regular transit service for the elderly and disabled. An expanded demand-responsive system either within the City of Cloverdale and/or within the entire north County area should be explored as an immediate means of providing regular public transportation to the greater Cloverdale environs.

#### 6.2.4 Rail

Rail service is provided by the Northwestern Pacific Railroad which traverses the General Plan area to the immediate east of the city. Existing and future rail service is expected to remain constant at between four to six through freight movements per day. No passenger service is anticipated. The construction of the Freeway Bypass will necessitate the eastward relocation of the railway and switching yard providing improved access and service to the city's industrial area.

#### 6.2.5 Aviation

Air transportation facilities are provided at the Cloverdale Municipal Airport (a Class II facility), located south of the present City limits off of Airport Road. Located within the City's industrial area and

adjacent to the Northwestern Pacific Railroad, the airport is ideally situated to accommodate safe and efficient freight and personal movements to and from the Cloverdale region. During 1977 the airport logged over 6500 flight operations, most of which were service related to the region's lumber, geothermal and agriculturally related industries. In response to this growing utilization of the airport, the City of Cloverdale has initiated an ongoing program of capital improvements inclusive of the extension and resurfacing of taxi-ways, construction of new and improved hanger facilities, additional user parking area, perimeter security fencing, the upgrading of the water utility service, and construction of a lighted tetrahedron.

## 6.3 FUNCTIONAL CLASSIFICATION OF TRAFFICWAYS

The following functional classification by type of trafficways anticipated to be found within the City of Cloverdale provides decision makers with criteria in determining required street widths and roadway improvements in response to future development proposals. Typical local roadway widths are illustrated in Appendix 6-C.

### 6.3.1 Freeways

Freeways are routes designed to carry large volumes of traffic over long distances. Access is controlled, grade crossings are separated and median strips are used to separate opposing lanes. The proposed Freeway Bypass best exemplifies this classification. The proposed freeway will have a right-of-way of 230 feet. Initial development will include four travel lanes with a median strip of 60 feet. Future expansion of the Freeway to six lanes will ultimately reduce the median strip to 36 feet. The four lane capacity of the roadway approximates an average daily traffic (ADT) of 55,000 vehicles; the six lane capacity 80,000 ADT.

### 6.3.2 Arterials (Major Streets)

Arterials represent the major street in the local street hierarchy. The function of an arterial roadway is to improve local circulation system continuity by providing efficient connecting links that accommodate the major flow of traffic into and through the community. Two lane arterials are major streets such as First Street or Foothill Boulevard that have right-of-way widths between 60 to 86 feet and an ADT capacity range between 6,000 and 11,000 vehicles per day, depending on intersection constraints. Cloverdale Boulevard is another example of an arterial roadway. Upon completion of roadway improvements currently underway, Cloverdale Boulevard will have four traffic lanes between the southerly intersection of Healdsburg Avenue and Cloverdale Boulevard and Clovercrest Drive and three traffic lanes north and south of these points. An upward capacity range of 22,000 ADT can be expected along this arterial.

### 6.3.3 Collector Streets

Collector streets function to conduct traffic between local streets and major arterials within the circulation system and handle short trips within neighborhoods. Traffic volumes along collectors usually range upwards of 3,000 ADT. Rights-of-way may vary between 52 and 60 feet in width. Examples of local collector streets are Cherry Creek Road, Brookside Drive, Clark Avenue, and the proposed extensions of Franklin Street and Healdsburg Avenue.

#### 6.3.4 Local Streets

The principal function of a local street is to provide access to property abutting the public right-of-way. Moving traffic is a secondary function of a local street. Ordinarily, local streets should not carry through traffic; buses and heavy trucks should be excluded except where the local street is in a commercial or industrial area. Local streets may be loop streets or cul-de-sacs. Travel distance to a collector should be short - generally a half-mile - as an unduly long street tends to build up traffic volumes. Rights-of-way may range between 40 and 54 feet in residential areas, with wider rights-of-way possibly required when servicing commercial or industrial areas. Traffic volumes usually range between 300-1,000 ADT.

#### 6.3.5 Industrial Streets

Industrial areas usually have their own local streets. The designs for such streets must consider the predominant type of trucking and whether the maneuvering of trailers must be provided for. Parking requirements, drainage and curbing, and setbacks of buildings must also be considered. Industrial streets may either be collector or local streets. Desirable street rights-of-way vary between 60 and 100 feet, depending on type of industrial use.

#### 6.3.6 Hillside Roads

The inclusion of a functional category for roads within the City's Hillside Residential Area is intended to recognize the physical limitations, visual and aesthetic sensitivities, and unique development potential of the area, where strict application of accepted road standards and improvements may be both unnecessary and undesirable.

As the eventual development densities, development form (cluster vs. detached housing), grades, circulation patterns, and potential linkages with existing City streets are presently unknown, the development of hard and precise hillside roadway standards is speculative at best. However, the following criteria may be useful in assessing the merits of reduced hillside roadway standards.

- A. Density/Family Size/Traffic Generation. What is the anticipated residential density of the development proposal? Estimated family size? How many trip ends will the proposed development generate? What are the special service or emergency vehicle requirements related to the eventual hillside population and development pattern?

hicle requirements related to the eventual hillside population and development pattern?

B. Circulation Pattern. Roadway widths should relate to function. Any continuous road or roads that provide a connecting loop with the existing Cloverdale street network may function as arterials or collectors relative to hillside traffic. Such streets should be designed accordingly. How many lts will a collector or cul-de-sac serve? Can a one-way circulation system be established?

C. Parking. Residential occupant parking should be off-street. Only visitor parking may overflow onto the street. Three options for on-street parking exist: 1) parking on one side only; 2) parking on both sides of the street; and 3) the preferred alternative of parking bays. Parking lanes require an 8 foot paved width. However, an equally wide retained gravel shoulder can be used in lieu of paved parking lanes and may have the advantage of reducing the rate of storm water runoff. Such shoulders may help create a natural or rural appearance, but displaced gravel and/or mud can be a nuisance and a safety consideration. Accordingly, careful design, landscaping, and construction are necessary if the functions and aesthetic objectives of such shoulders are to be realized.

#### 6.3.7 Bikeways

Bikeways should provide a safe and convenient network of identified routes linking residential areas to activity centers (such as commercial and industrial areas). As illustrated on Exhibit 6-3 the three classifications of Bikeways are:

A. Class I Bikeway. A Class I bikeway is for the exclusive use of bicycles. Street and pedestrian crossings are kept to a minimum. This type of bikeway can best be located in parks or alongside freeways, expressways, railroad rights-of-way, or waterways. A Class I bicycle path should be at least 8 feet wide for two-way operation (one-way - 4 feet), with grades dictated by terrain.

B. Class II Bikeway. Class II bikeways are adjacent to but separated from motor vehicles and/or pedestrian traffic-ways. Within the bike lane a cyclist may be preempted by turning or parking vehicles. This type of bikeway can be added to existing streets by removing curb parking or narrowing travel lanes to

provide a path separated by a low berm or painted markings. One way lanes should be at least 4 feet wide (two-way bike lanes on the same side of the street should be discouraged). Grades are those of the adjoining roadway.

C. Class III Bikeway. Class III bikeways share existing rights-of-way with either motor vehicles or pedestrians. Signs placed on vertical posts or stenciled on the pavement are used to designate a Class III bikeway. While this type of bikeway is the most hazardous, it is also the least expensive to install and appropriate for local streets with little traffic. One way lanes vary from 0 to 4 feet or more depending on the roadway. The grade is that of the adjoining roadway.

#### 6.3.8 Pedestrian Circulation

Wherever possible the complete separation of vehicular and pedestrian circulation systems is desirable. A pedestrian circulation system within a particular development may contain three types of sidewalks or paths:

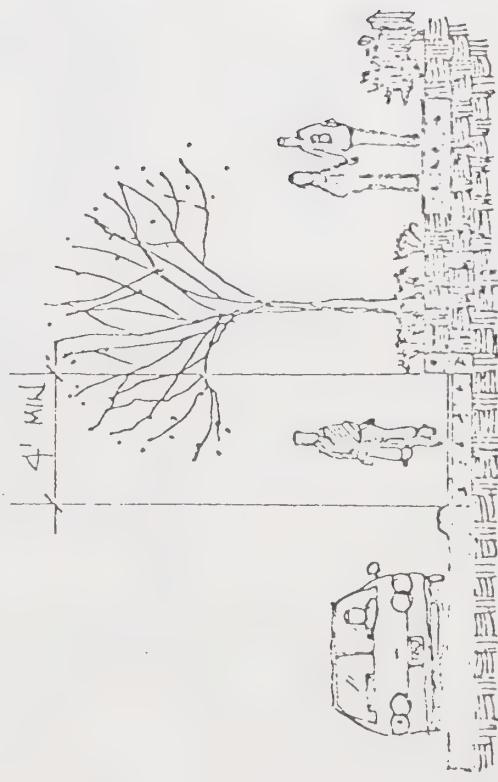
- A. Paths or sidewalks (usually two to three feet wide) connecting individual dwelling units with off-street parking areas and refuse disposal areas.
- B. Paths or sidewalks connecting neighborhood dwelling units, usually three to four feet in width.
- C. Paths or sidewalks connecting groups of dwellings with commercial centers and other community facilities, usually four feet wide.

Sidewalks along some residential streets are necessary and desirable, but realistic evaluation will often indicate that sidewalks on one or both sides of a minor residential street will be superfluous. The basic test of need should be the expected use and sidewalk relationship as an element of a functional pedestrian system. When children are anticipated and paved private driveways will not be installed, sidewalks should be installed on at least one side of the street.

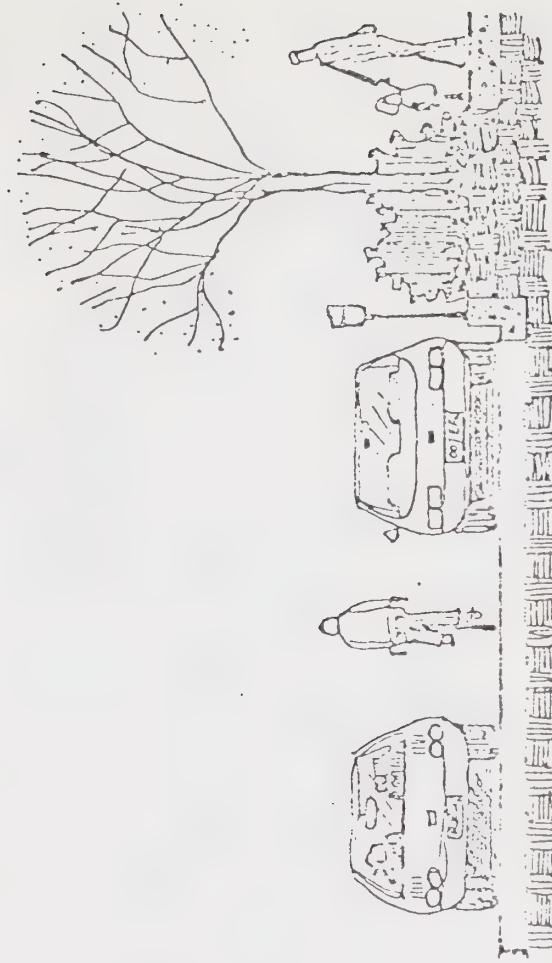
Sidewalk and path street crossings should be located where there is good sight distance along the road. Curb cuts should be provided for users of wheelchairs, wagons, tricycles, and bicycles.

EXHIBIT 6-3  
BIKEWAY CLASSIFICATION

CLASS I BIKEWAY  
FOR THE EXCLUSIVE USE OF CYCLES.



CLASS II BIKEWAY: ADJACENT TO, AND  
SEPARATE FROM, AUTOMOBILE AND  
PEDESTRIAN TRAFFIC.



CLASS III BIKEWAY: A SHARED BIKEWAY  
IN WHICH THE BIKE OCCUPIES THE SAME  
RIGHT OF WAY WITH AUTOMOBILE OR  
PEDESTRIAN TRAFFIC.

The circulation proposals on Exhibit 6-4, Circulation Plan, illustrate the trafficways required to safely and efficiently accommodate existing and anticipated traffic flow throughout the community. The circulation proposals relate primarily to the Freeway Bypass, the necessary arterial and collector street linkages throughout the City's Urban Expansion Area, and a bikeways route.

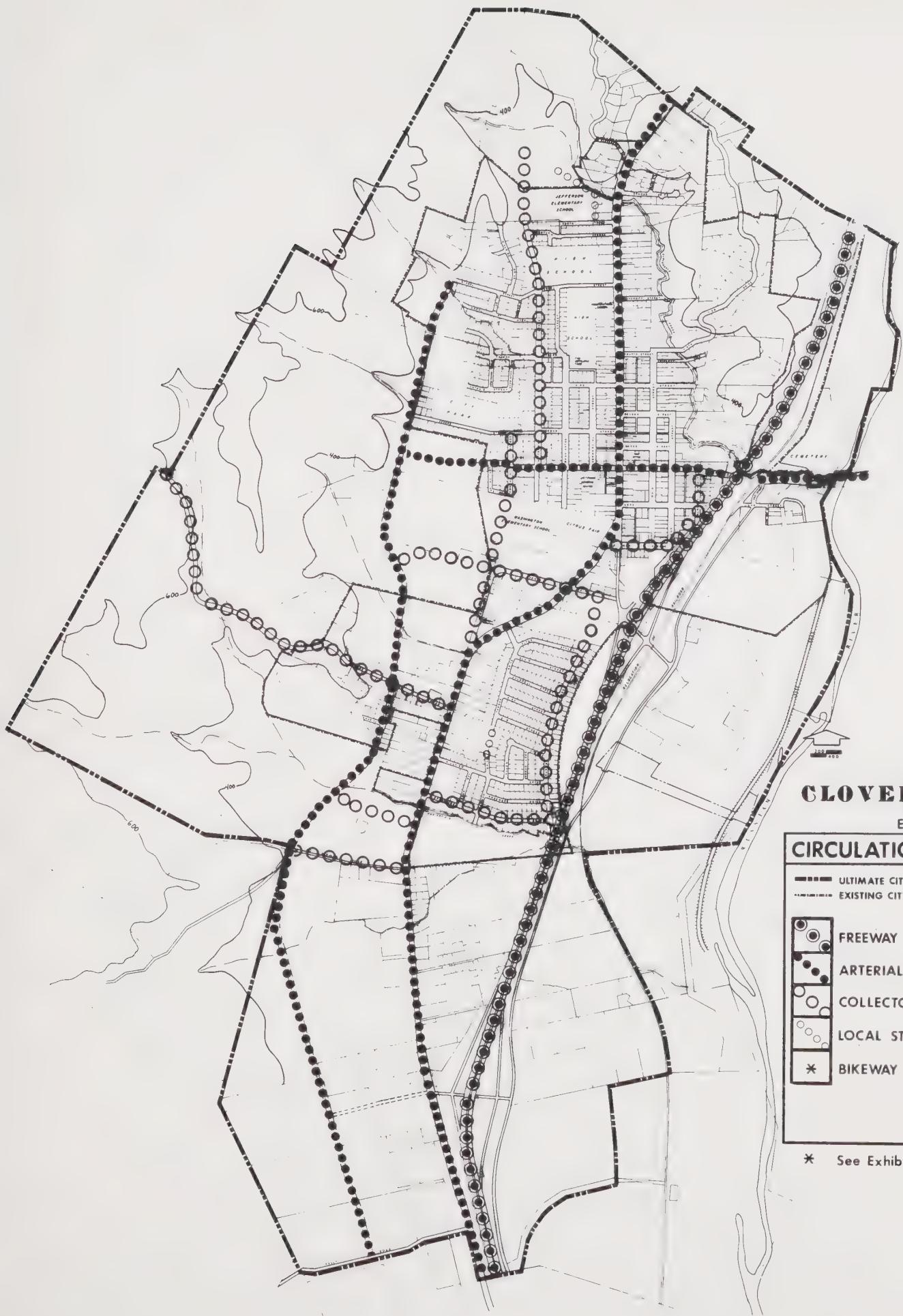
#### 6.4.1 Freeways

The plan illustrates the geometrics of the proposed Freeway Bypass. The bypass will be developed initially as a four lane facility with provision for future expansion to a full six lane roadway. Two interchanges are anticipated: one at the Kelly Road intersection and one in Central Cloverdale in the South Avenue/Railroad Avenue vicinity.

Construction of the Freeway Bypass is anticipated to reduce traffic volumes along the present Cloverdale Boulevard/ Highway 101 alignment by 47%, reducing average annual daily traffic from 18,000 to approximately 9,000 vehicles per day. A two mile long frontage road will extend from Kelly Road to First Street providing both a supplemental local north-south roadway within the Cloverdale General Plan Area and improved access to the industrial areas of the community. For a more detailed discussion see Draft Environmental Impact Statement, Freeway Bypass of the City of Cloverdale, as prepared by the Federal Highway Administration and California State Department of Transportation, on file in the City of Cloverdale Administration Offices.

South Avenue Interchange Alternative. Throughout the General Plan update process considerable discussion centered around the merits of an alternative interchange geometric for the South Avenue/Railroad Avenue Interchange. The alternative interchange concept is illustrated on Exhibit 6-5. As illustrated, the alternative interchange favors an east-west alignment that would provide for direct Freeway access from the City's Urban Expansion area via the proposed westerly extension of Healdsburg/South Avenue (road name to be determined) to the Foothill Boulevard arterial.

At this point in time the alternative South Avenue Interchange alignment represents an unresolved issue of local public policy. The merits of this alternative relative to overall community circulation patterns, land use relationships and traffic safety (turning movements, intersection design, traffic volumes, etc.) require more thorough community analysis and represents a priority circulation issue.



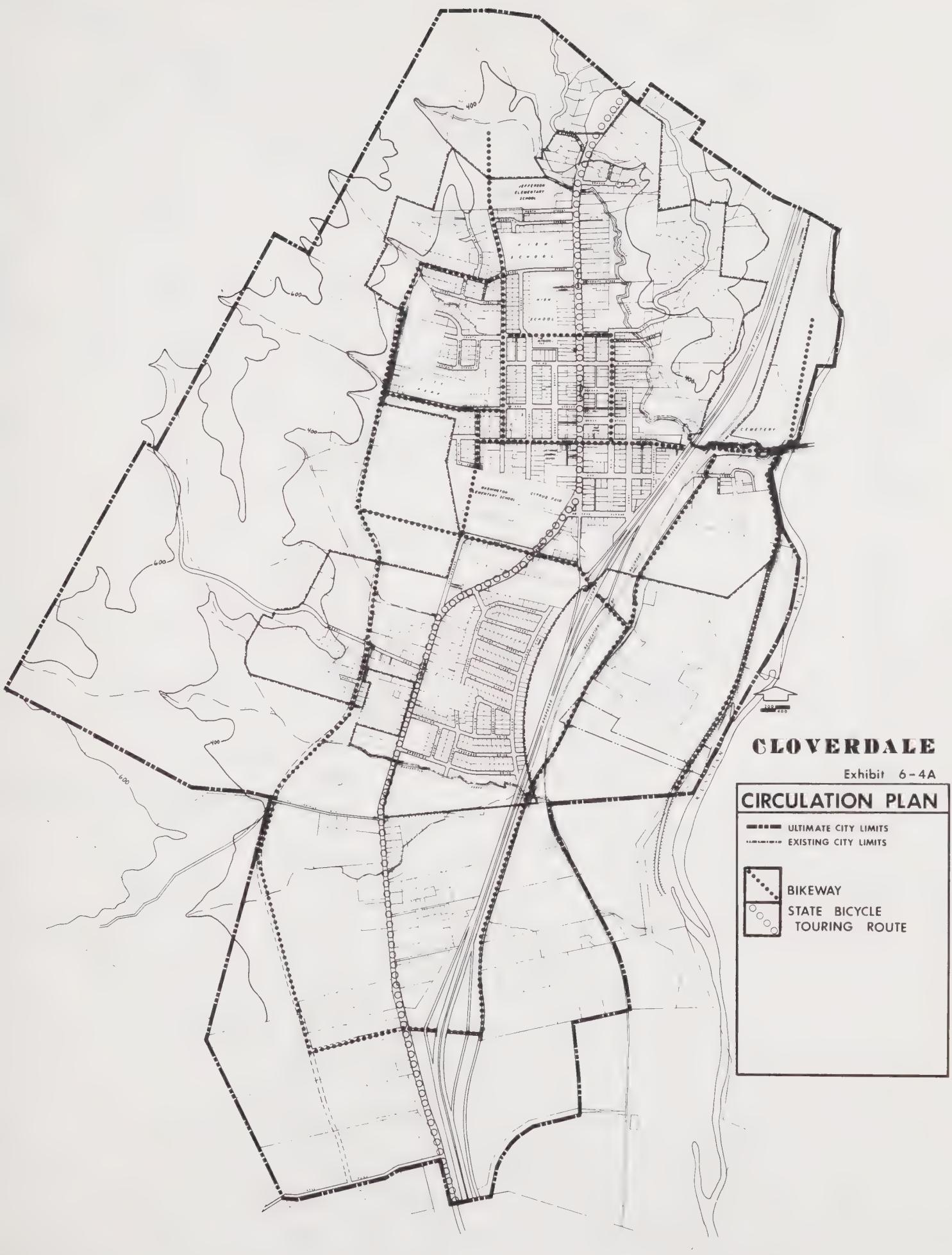
## CLOVERDALE

Exhibit 6-4

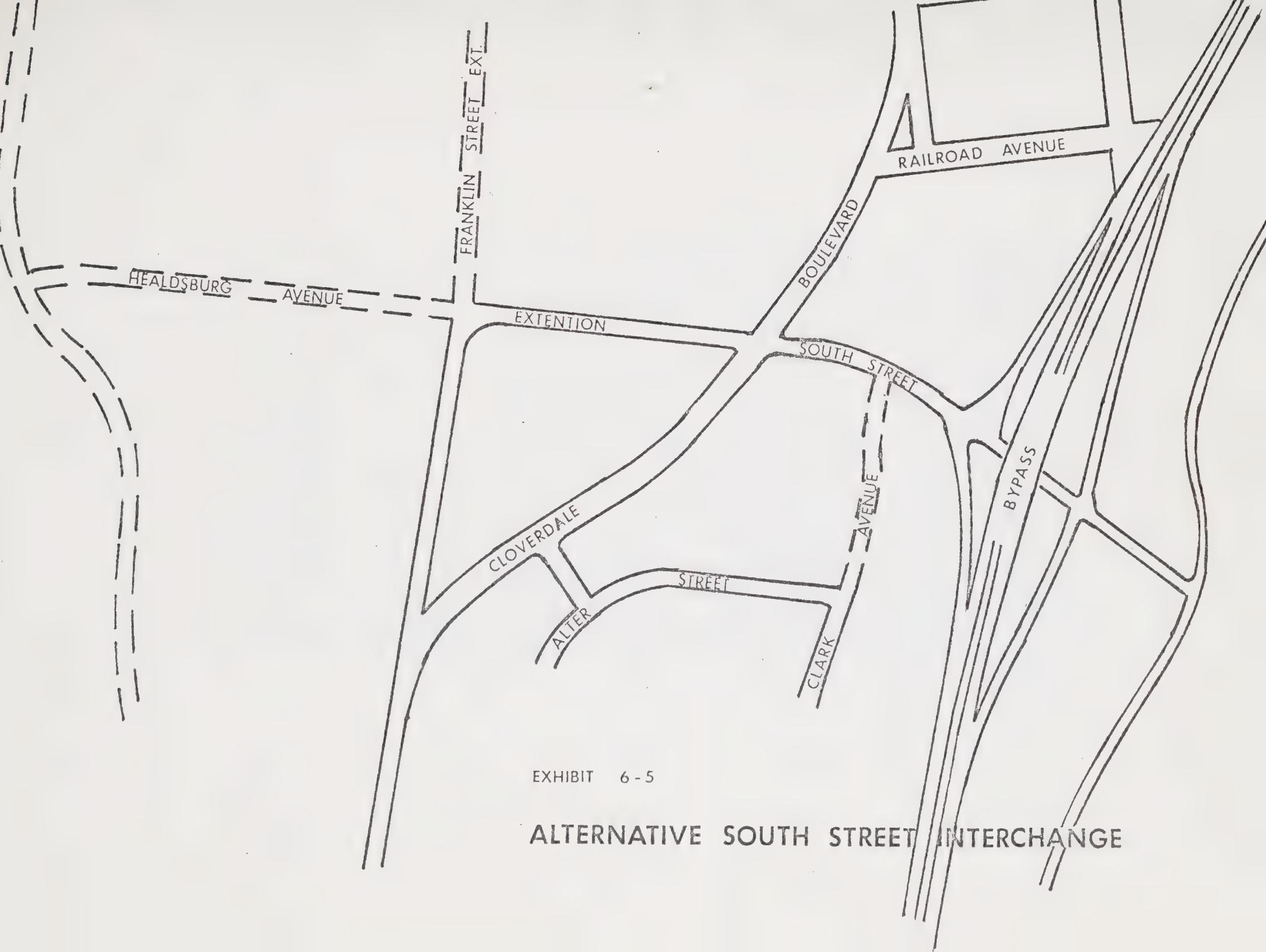


\* See Exhibit 6-4A









#### 6.4.2 Arterial Streets

Foothill Boulevard. Foothill Boulevard is a planned major north-south arterial running at the base of the foothills along the entire western flank of the Cloverdale General Plan Area. Upon completion, this arterial will serve as the unifying circulation link throughout the City's Urban Expansion Area. A typical cross-section of the roadway is illustrated on Appendix 6-D. A precise parcel-specific delineation of Foothill Boulevard is available from the Administration Offices of the City of Cloverdale (Foothill Boulevard Plan Line, City of Cloverdale, prepared by Brelje and Race, Consulting Engineers, 1975).

Cloverdale Boulevard. Cloverdale Boulevard (Highway 101) presently serves as the major arterial roadway in the Cloverdale circulation network. Upon construction of the Freeway Bypass, Cloverdale Boulevard will retain its north-south arterial function but revert to a more exclusive local-serving facility. Improvements to Cloverdale Boulevard anticipated to be completed by 1980 will result in a widening of the road to three lanes between Kelly Road and the Healdsburg Avenue/Cloverdale Boulevard intersection, and a full four lanes from this intersection north through the Central Business District to approximately Clovercrest Drive, where it will revert back to a three lane facility. As a result of these improvements, peak hour traffic flow should be improved through Central Cloverdale. Similarly, the provision of a center turning lane along South Cloverdale Boulevard will improve traffic flow and traffic safety by providing relief for turning motorists and eliminating stacking at intersections.

First Street. First Street is the only arterial that presently serves as an east-west link with the rural residential areas east of the City of Cloverdale (River Road, Palomino Lakes, etc.) and the Geothermal Resource Development Area. The Circulation Plan indicates the westerly extension of First Street from Las Galinas Drive to Foothill Boulevard. This linkage will improve access to the Central Business District from the City's Urban Expansion Area and will relieve traffic pressures along Second Street. Existing traffic volumes east of Cloverdale Boulevard approximate 2500 ADT, with volumes up to 5000 vehicles per day by 1990.

### 6.4.3 Collector Streets

Jefferson Street. With the potential for additional residential development in the northwestern portion of the City and the subsequent increase in residential traffic, the Circulation Plan recognizes Jefferson Street as a collector from its proposed northerly extension into A.P. #116-020-07, south to First Street.

Franklin Avenue. The improvement of Franklin Avenue between First Street and Healdsburg Avenue to collector status will provide improved north-south circulation and better access to the Washington Elementary School.

Healdsburg Avenue. The Circulation Plan conceptually illustrates the westerly extension of Healdsburg Avenue to Foothill Boulevard. Such an alignment would provide a direct access to Cloverdale Boulevard and the proposed Freeway Interchange area from the Urban Expansion Area and would provide relief to First Street, Second Street, and Cherry Creek Road.

Cherry Creek Road. Cherry Creek Road is currently accommodating an ADT of 2000 vehicles. Until either Healdsburg Avenue, a Porterfield Creek collector, or an intermediary roadway link with Cloverdale Boulevard is provided, increased residential development of the Cherry Creek Subdivision and lands to the north may generate an additional 2000 vehicle trips per day. An ADT of 4000 vehicles per day at the Cherry Creek Road/Cloverdale Boulevard intersection may exceed acceptable tolerance levels to those residences fronting onto the roadway (noise, dirt, dust, vibration, etc.), would increase peak hour stacking and turning movements at the Cloverdale Boulevard intersection and would increase the potential for traffic accidents at this location. This stresses the importance of additional connections to Cloverdale Boulevard from Foothill Boulevard.

Porterfield Creek Collector. The need exists for a collector roadway to the south of Porterfield Creek, connecting Foothill Boulevard with Cloverdale Boulevard. Such a roadway would provide relief to Cherry Creek Road and would improve access to the neighborhood park proposed for the area.

Brookside Drive/Clark Avenue. The Brookside Drive/Clark Avenue corridor (inclusive of the proposed extension of Clark Avenue to South Street) is recognized as having collector status for the Tarman and Hillview neighborhoods. To the maximum extent possible, the Brookside/Clark collector route should facilitate residential traffic only. Service traffic generated by the Mixed Development area along the northerly extension of Clark Avenue should be confined to ingress and egress from either Cloverdale Boulevard or South Street.

Hot Springs Road. In response to future residential development in the southern portion of the City's Urban Expansion Area, Hot Springs Road will function as a collector roadway linking Foothill Boulevard and Cloverdale Boulevard. Increased traffic will require improvement of this roadway to an adequate collector width.

Railroad Avenue/Mulberry Street. The Circulation Plan reflects the improvement of the Railroad Avenue/Mulberry Street corridor to collector status. The primary intent of this collector will be to provide relief to the First Street/Cloverdale Boulevard intersection by establishing an alternative link between the Freeway and Central Cloverdale.

#### 6.4.4 Local Streets

Tarman Drive Connection. The connection of Tarman Drive through Assessor's Parcels 01-330-06, 07, 09, 11 and 12 is recognized as a necessary roadway link to provide better internal circulation within the Tarman and Hillview neighborhoods. It is anticipated that a local improvement district will be created to assist in the financing of this improvement.

North Street Connection. In response to the potential residential development of the lands to the north of the Jefferson Elementary School, the development of a supplemental access to this area other than the extension of Jefferson Street is desirable. This is conceptually expressed in the Circulation Plan via the improvement of a North Street connection along the easterly property line of the Jefferson School. The necessity of this roadway link should be reviewed against future development proposals for the area and their traffic generation and circulation characteristics.

#### 6.4.5 Bikeways

The Bikeways system illustrated on the Circulation Plan represents a conceptual series of linked routes that would tie together residential, recreational, commercial and industrial areas within the City. The circuitous route shown is largely dependent upon the completion of major arterial links such as Foothill Boulevard and the Freeway Bypass Frontage Road. However, a bikeways system could be developed initially utilizing existing streets and rights-of-way. As existing and future traffic volumes are not anticipated to be excessive, the development of Class III Bikeways could be accomplished efficiently and economically within existing rights-of-way. Within new developments (such as the Planning Reserve Areas) bikeways can be integrated into the development design and built by the developer as part of routine right-of-way construction.

An illustration of past, present (1977) and future traffic volume is provided by Exhibits 6-6, 6-7 and 6-8. Comparatively, the 24 hour traffic counts taken by the State Department of Transportation during 1977 reflect only minor increases in traffic flow along local City streets. The minor increases that are shown are due primarily to the new residential infill and annexations that have occurred during the nine year interim (School Street area, Vista View Drive, etc.) since the last counts were taken.

New development that has occurred off of Cherry Creek Road, coupled with the vacant residential potential of this area, has the combined effect of seriously impacting the Cherry Creek Road/Cloverdale Boulevard intersection. Without the benefit of an additional east-west link in this area between Foothill and Cloverdale Boulevards, traffic volumes along Cherry Creek Road may increase to 4000 vehicles per day. A similar short-term condition may arise along Second Street west of Jefferson Street where new development and increased City Park usage has increased traffic volumes from 100 to 640 vehicles per day. As Second Street is relatively narrow (26 feet) west of Jefferson Street, increased residential development to the west may result in capacity deficiencies along this roadway - especially during peak recreational periods. The eventual extension of First Street and/or Fourth Street should provide the necessary relief.

The most significant rise in traffic volume has been that along Highway 101/Cloverdale Boulevard (Table 6-1), which has shown a 54% overall increase in annual average ADT between 1968-1977. Relative to future traffic volumes, the Freeway Bypass will have the effect of reducing Cloverdale Boulevard traffic to an ADT volume of approximately 9000 vehicles.

No attempt has been made to predict traffic volumes in the City's Urban Expansion Area along either Foothill Boulevard or the proposed westerly extension of Healdsburg Avenue, as the eventual residential densities, population mix, internal circulation systems and travel patterns are unknown. However, in an effort to provide local decision makers with a tool with which to assess the traffic impacts of future development proposals (residential, commercial, industrial, recreational, etc.), Appendix 6-E, Trip End Generation Rates by Land Use, has been included. These data are updated annually by the California Department of Transportation and are characteristic of traffic generation throughout the greater Bay Area.

TABLE 6-1  
CLOVERDALE BOULEVARD AVERAGE DAILY TRAFFIC, 1968-1976  
CITY OF CLOVERDALE

	Location	1968	1970	1972	1974	1976	% Change 1968-1976
Peak Hour	Hot Springs Road	1,200	1,550	1,850	1,900	1,650	37
	Cherry Creek Road	1,300	1,700	2,000	2,050	2,000	54
	First Street	1,550	1,950	2,300	2,400	2,350	52
	Highway 128	910	1,200	1,450	1,500	1,350	48
Mid Month	Hot Springs Road	11,500	17,200	20,500	21,100	18,100	57
	Cherry Creek Road	12,400	18,900	22,500	23,200	22,400	80
	First Street	14,800	21,600	26,000	27,000	26,500	79
	Highway 128	8,400	13,400	16,000	16,400	14,800	76
Annual Average	Hot Springs Road	9,200	11,900	14,200	14,600	12,500	36
	Cherry Creek Road	9,900	13,100	15,600	16,100	15,500	56
	First Street	11,800	15,000	17,900	18,500	18,200	54
	Highway 128	6,800	9,300	11,100	11,400	10,300	51

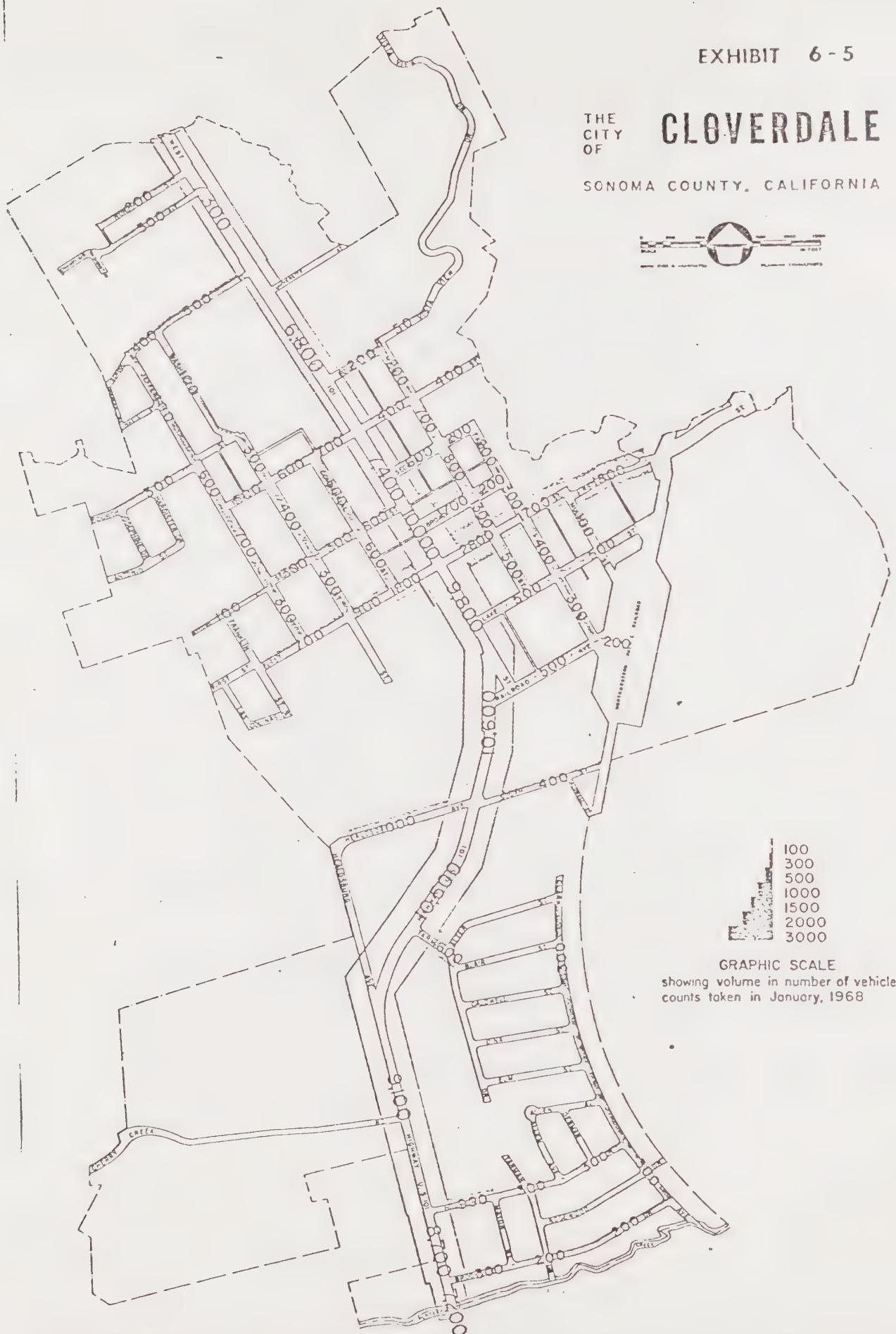
Source: Traffic Volumes on the California Highway System, (1968-1976), Office of Traffic, California State Department of Transportation.

EXHIBIT 6-5

THE  
CITY  
OF

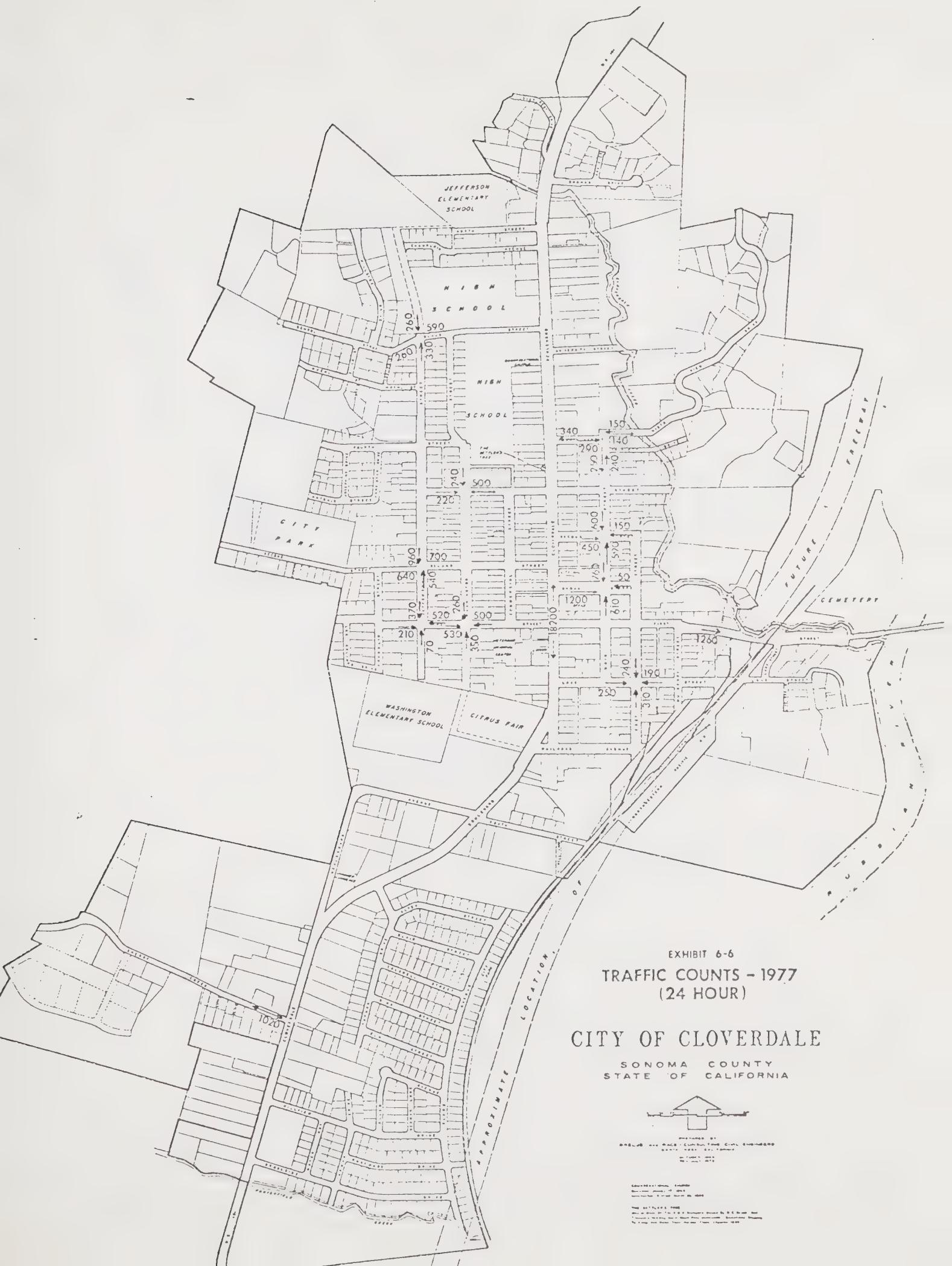
CLOVERDALE

SONOMA COUNTY, CALIFORNIA



CIRCULATION  
ELEMENT

24 HOUR TRAFFIC FLOW



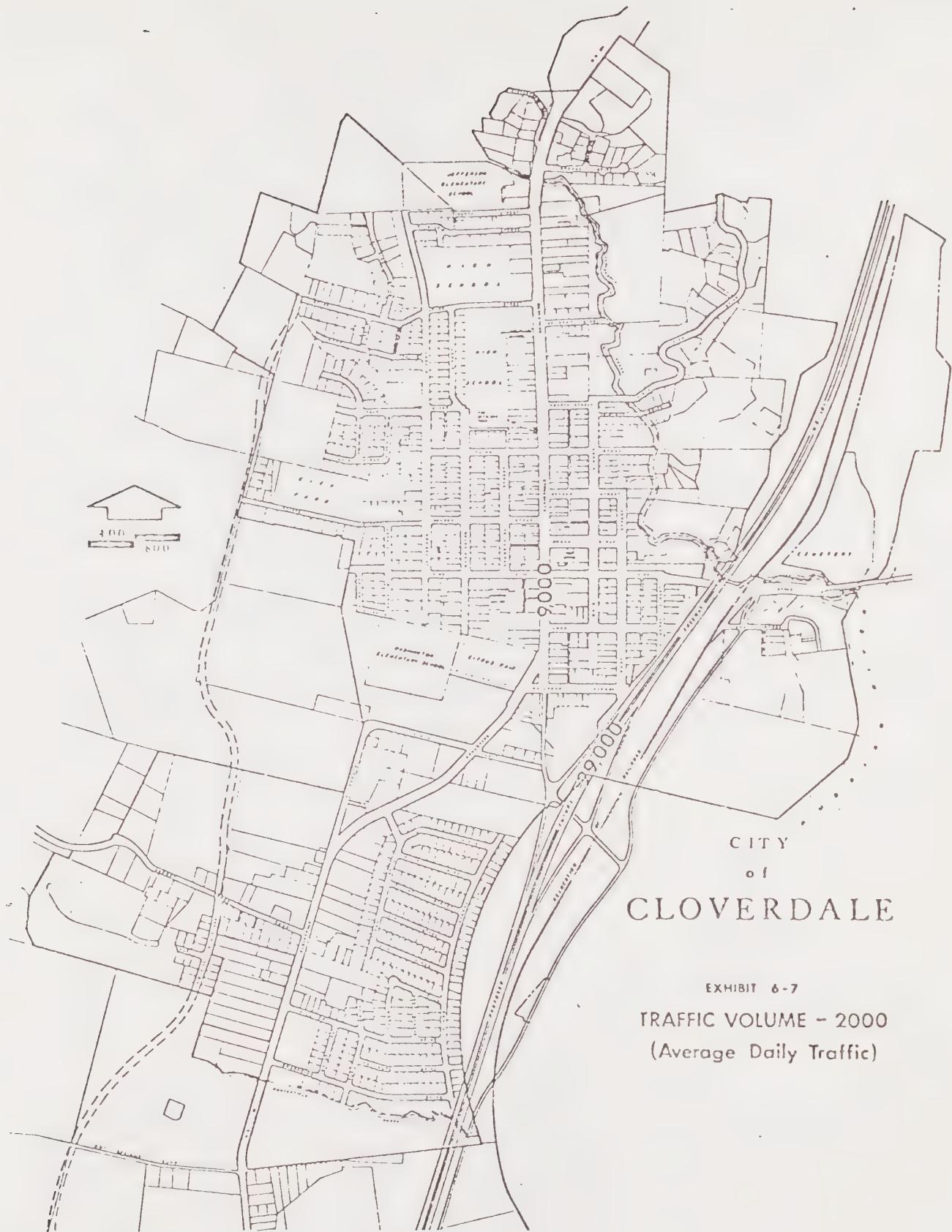


EXHIBIT 6-7  
TRAFFIC VOLUME - 2000  
(Average Daily Traffic)

## 6.6

### SCENIC HIGHWAYS

The California Government Code requires that all local General Plans include a Scenic Highways Element for the development, and protection of scenic highways. Roads in a scenic highway system should include the following criteria:

- a) High Visual Quality - the roadway corridor should provide the motorist with expanded views and vistas and scenic points of interest.
- b) Regional Linkages - scenic highway routes should be interconnected (to the extent possible) to form a continuous roadway network.
- c) Recreational Access - scenic highway routes should serve as visual linkages between major recreational areas and points of historical or cultural interest.

#### 6.6.1 Goal Statement

GOAL: TO PROTECT AND ENHANCE AREAS OF NATURAL SCENIC BEAUTY ADJACENT TO HIGHWAY CORRIDORS.

Objectives: Maintain and enhance a scenic corridor route as an integral part of the setting through which it passes without imposing undue restrictions on private property or constricting the normal flow of traffic.

: Promote the achievement of a "complete highway" which incorporates safety, utility, economy, and beauty with the surrounding environment.

#### 6.6.2 Designation of Scenic Highways

A city or county may apply for designation of a local road, county road, and some state highways as official State Scenic Highways. Official State designation is accompanied by the posting of California Poppy signs along the route and by the distribution of identification maps on a statewide basis.

The California State Department of Transportation will prepare a general study of the proposed highway corridor, entitled Scenic Highway Report, at the request of the local governing jurisdiction. Subsequently, the local jurisdiction (city or county) must prepare a specific plan for the corridor which then must be reviewed by the State Scenic Highway Advisory Committee relative to the regulation of land use and devel-

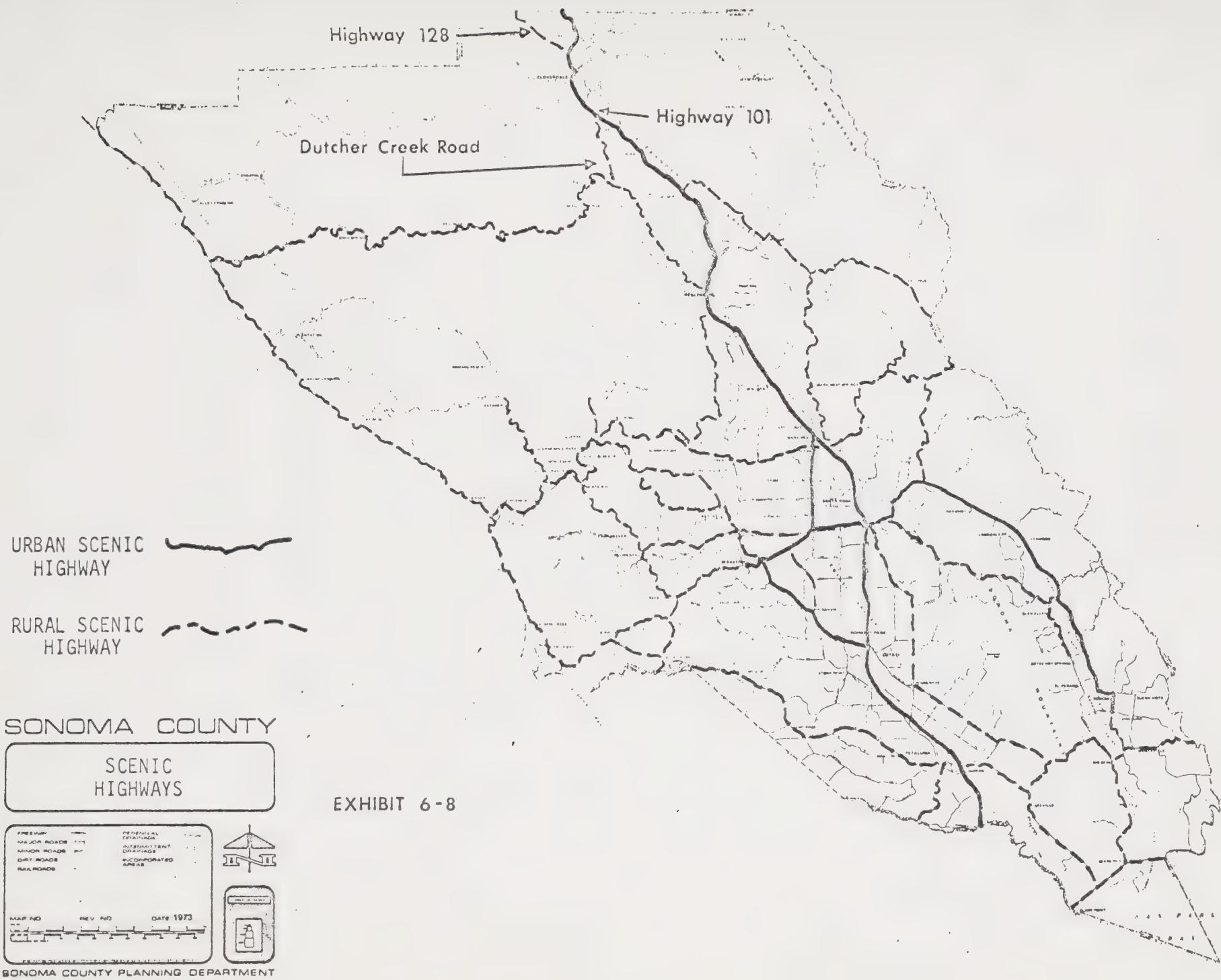
opment density, the development of detailed site planning criteria, the control of outdoor advertising, careful attention to and control of earthmoving and landscaping, and the design and appearance of structures and equipment along the corridor route.

Within the Cloverdale Regional Planning Area the County of Sonoma has designated Highway 101 as an Urban Scenic Highway, and both Highway 128 and Dutcher Creek Road as Rural Scenic Highways (see Exhibit 6-8). These roadway designations in the county general plan represent the first step in the planning process necessary for official State recognition.

#### 6.6.3 Implementation Program

To qualify Highway 101, Highway 128 and Dutcher Creek Road for official State Scenic Highway status within the Cloverdale Regional Planning Area the following course of action should be pursued:

- 1) Conduct exploratory local public meetings to explain the significance and consequence of a scenic highway designation with the affected property owners along the selected route. This should be done in conjunction with the County of Sonoma as much of the corridor routes in question lie within county jurisdiction. Subsequent to these meetings and a favorable response;
- 2) Initiate a formal specific plan study program along the selected scenic highway route in conjunction with the County of Sonoma. Such studies should include recommendations and regulatory controls pertaining to the following:
  - a) site plan review
  - b) architectural review
  - c) land use
  - d) building heights and setbacks
  - e) delineation of highway visual corridor
  - f) advertising and signs
  - g) screening and landscaping
  - h) historical preservation
  - i) recreational opportunities
  - j) cut and fill operations
  - k) undergrounding of utilities wherever possible.



## APPENDIX 6-A

### -CLOVERDALE-

#### Special Questions

1. To what area does the primary wage carrier commute?

70	--	5.43%	0. No Residence
155	----	11.57%	1. Santa Rosa
7	--	0.52%	2. Petaluma
1,134	----	74.33%	3. Rohnert Park, Cloverdale, North County
2	----	0.30%	4. Sebastopol, River Area, West County
5	----	0.35%	5. Sonoma, East County
6	----	0.40%	6. Robert Louis, Petaluma, Redwood
2	----	0.13%	7. Marin County
3	----	0.20%	8. Santa Vallejo
57	----	5.30%	9. Other

3. To what area does the secondary wage carrier commute?

103	----	7.61%	0. No Residence
157	----	12.40%	1. Santa Rosa
2	--	0.13%	2. Petaluma
1,132	----	49.51%	3. Rohnert Park, Cloverdale, North County
5	----	0.37%	4. Sebastopol, River Area, West County
3	----	0.23%	5. Sonoma, East County
1	----	0.07%	6. Robert Louis, Petaluma, Redwood
1	----	0.07%	7. Marin County
1	----	0.07%	8. Santa Vallejo
1	----	0.13%	9. Other
105	----	34.70%	Blank - No secondary wage carrier

4. What is the primary means of transportation for the adult members of this household?

73	--	5.45%	0. No Residence
1,130	----	78.28%	1. Private Auto
11	--	0.82%	2. Bus
12	--	6.12%	3. Bicycle or Walk
5	----	0.60%	4. Combination of Auto and Bus
56	----	4.00%	5. Combination of Auto and Bicycle or Walking
19	----	1.34%	6. Combination of Bus and Bicycle or Walking
5	----	0.40%	7. Carpooling
15	----	0.37%	8. Carpooling ( Minibus )
9	----	0.67%	9. Handcarried with no available means of transportation.

## SATURDAY AND SUNDAY TRAFFIC FORECASTS

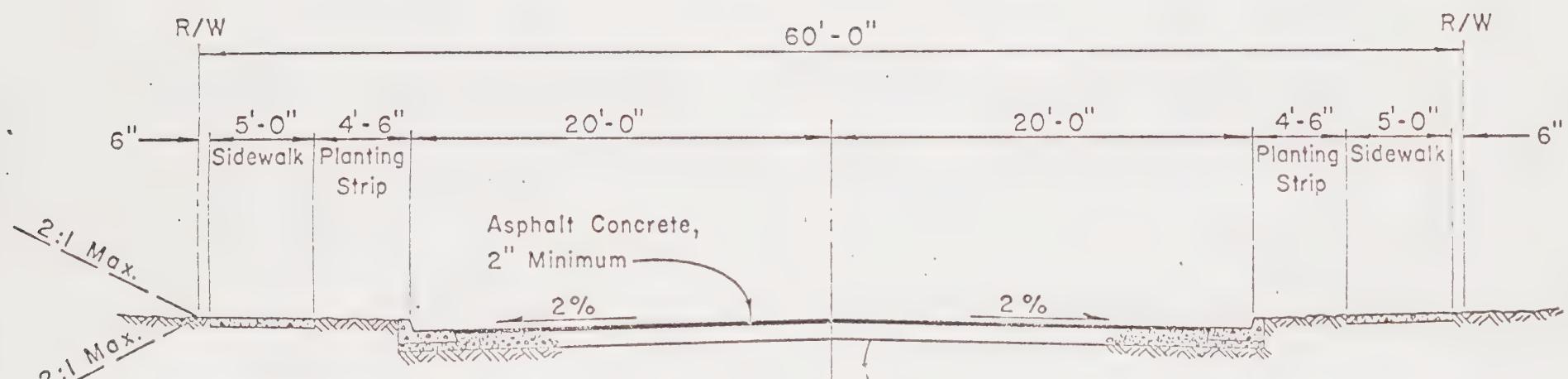
PLANNING AREA		BASELINE - 2000			WEEKEND VOLUMES FOR EACH PEAKLOAD GROWTH ASSUMPTION					
Corridor Number	Location	AADT	Level of Service	Summer Weekday ADT	Sat/Sun ADT (000's)	Level of Service	High ADT (000's)	Level of Service	Sat/Sun ADT (000's)	Level of Service
<b>COASTAL</b>										
1	Hwy 1, Mendocino Co. Line	2,000	A	2,400	3/4	A	4/5	M	3/4	A
1	Hwy 1, N. of Jenner	4,000	A	4,800	6/7	M	7/9	M	6/7	M
9	Hwy 1, S. of Jenner	3,000	A	3,600	5/6	M	6/7	M	5/6	M
9	Hwy 1, Bodega Bay	6,000	A	7,200	10/12	U	12/14	U	10/12	U
9	Hwy 1, Marin Co. Line	5,000	A	6,000	8/10	U	10/12	U	7/9	U
<b>RUSSIAN RIVER</b>										
8	Hwy 116, E. of Jenner	4,000	A	4,800	6/7	M	8/9	M	6/7	M
8	Hwy 116, W. of Guerneville	7,000	M	8,400	11/12	U	13/15	U	10/11	U
8	River Rd., Rio Dell	7,000	M	8,400	11/12	M	13/15	M	10/11	M
8	River Rd., W. of Hwy 101	7,000	M	7,700	10/11	M	12/15	M	10/11	M
10	Hwy 116, S. of Guerneville	5,000	A	6,000	7/8	A	9/11	M	7/8	A
10	Hwy 116, N. of Forestville	6,000	U	7,200	9/10	U	11/13	U	9/10	U
10	Hwy 116, S. of Forestville	10,000	M	12,000	15/17	U	17/20	U	15/17	U
29	Guerneville Rd., E. of Graton	12,000	A	12,000	13/11	A	14/12	M	13/11	A
7	Westside Rd.	1,000	A	1,100	1/1	A	2/2	A	1/1	A
<b>SEBASTOPOL</b>										
11	Bodega Hwy, W. of Sebastopol	10,000	M	12,000	15/16	U	18/20	U	14/15	U
11	Bodega Hwy, S. of Freestones	4,000	A	4,800	6/6	A	7/8	M	6/6	A
10	Hwy 116, N. of Sebastopol	17,000	U	20,200	26/28	U	28/32	U	26/28	U
13	Hwy 12, E. of Sebastopol	25,000	U	26,000	27/22	U	28/23	U	26/21	U
19	Hwy 116, S. of Sebastopol	21,000	U	25,000	27/29	U	29/32	U	25/27	U
19	Hwy 116, W. of Cotati	20,000	U	24,000	26/28	U	28/30	U	26/28	U
20	Valley Ford Rd.	3,000	A	3,800	5/6	A	6/7	A	5/6	A
20	Valley Ford Rd., W. of Petaluma	4,000	A	4,600	6/7	A	7/9	M	6/7	A
<b>SONOMA</b>										
24	Hwy 116, W. of Sonoma	9,000	A	9,900	11/12	M	12/13	M	11/12	M
23	Lakeville Road	17,000	U	18,700	21/20	U	23/21	U	21/20	U
25	Hwy 12, N. of Sonoma	21,000	U	22,000	25/25	U	27/28	U	25/25	U
25	Hwy 12, N. of Agua Caliente	16,000	M	17,000	20/19	U	21/21	U	20/19	U
25	Hwy 12, N. of Glen Ellen	11,000	A	11,500	13/13	M	14/15	M	13/13	M
25	Hwy 12, N. of Kenwood	20,000	M	21,000	24/24	U	26/27	U	24/24	U
25	Arnold Drive N. of Sonoma	10,000	A	10,500	12/12	M	13/13	M	12/12	M
26	Hwy 12/121 E. of Sonoma	14,000	M	15,400	18/20	U	20/22	U	18/20	U
27	Hwy 121, S. of Sonoma	15,000	M	16,500	26/22	U	22/25	U	20/22	U
<b>HEALDSBURG</b>										
2	Dry Creek Road	3,000	A	3,000	6/7	M	9/10	U	9/10	U
2	Dry Creek Road	1,000	A	1,000	2/3	A	3/4	A	3/4	A
3	Hwy 101, Healdsburg	20,000	A	23,000	26/26	A	28/28	A	28/28	A
3	Hwy 101, S. of Asti	24,000	A	27,600	31/30	M	33/32	M	32/31	M
4	Hwy 128, E. of Geyserville	3,000	A	3,500	4/5	A	5/7	A	5/6	A
5	Hwy 101, S. of Healdsburg	34,000	M	39,000	40/39	U	45/44	U	44/44	U
5	Hwy 101, S. of Windsor	58,000	U	66,700	70/70	U	75/75	U	75/75	U
<b>OTHER</b>										
3	Hwy 101, S. of Cloverdale	29,000	U	33,400	39/39	U	41/42	U	40/41	U
3	Hwy 101, Mendocino Co. Line	17,000	M	19,500	22/22	M	24/25	M	23/24	M
22	Hwy 101, Marin Co. Line	97,000	U	112,000	122/133	U	125/145	U	123/125	U
8	Hwy 101, N. of Petaluma	91,000	U	105,000	110/114	U	113/125	U	112/116	U

A = Acceptable Level of Service

M = Marginal Level of Service

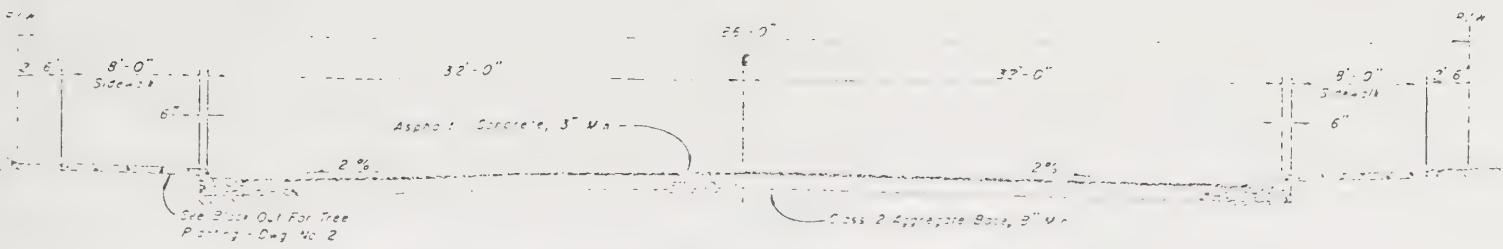
U = Undesirable Level of Service

APPENDIX 6-D

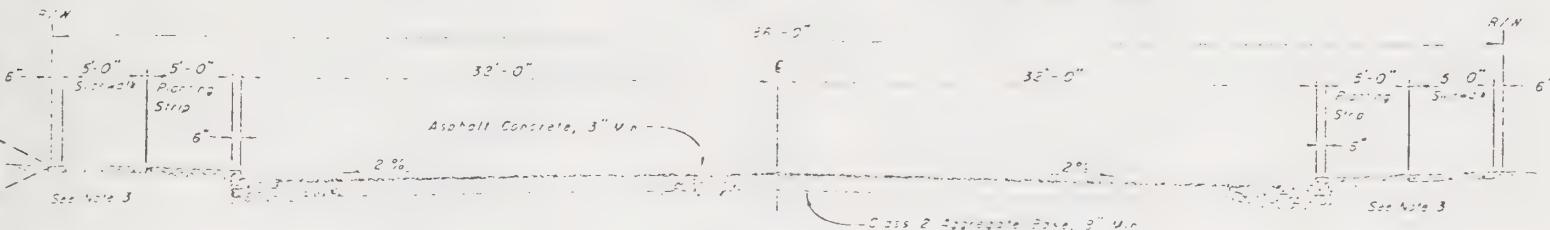


FOOTHILL BLVD.

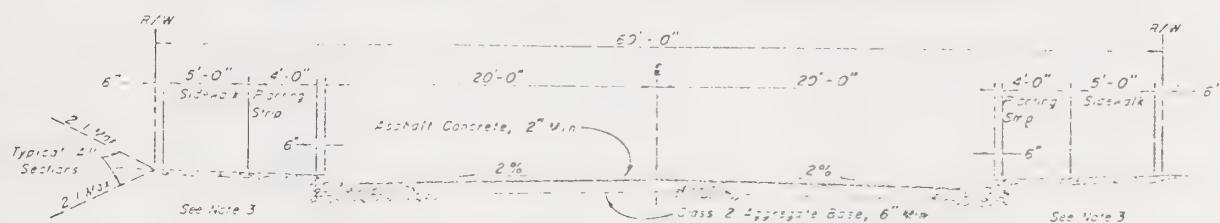
TYPICAL STREET SECTION  
60' R/W



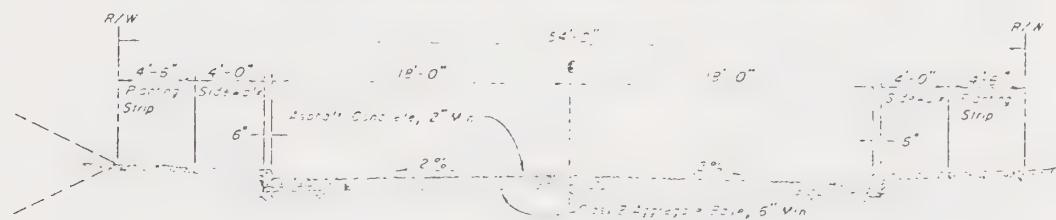
MAJOR STREET, COMMERCIAL 86' R/W



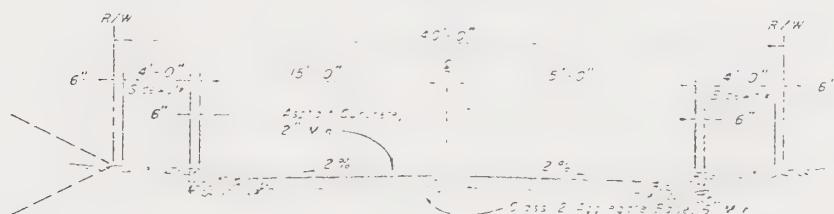
MAJOR STREET, RESIDENTIAL 86' R/W



SECONDARY STREET 60' R/W



LOCAL STREET 54' R/W



CUL-DE-SAC STREET 40' R/W  
(PARKING ONE SIDE ONLY)

TYPICAL STREET SECTIONS

SCALE 1" = 6'

NOTES

1. RIGHT OF WAY AND PAVING WIDTHS SHALL BE INCREASED BY 4'-0" FROM DIMENSIONS SHOWN ON EACH SIDE OF CENTERLINE WHERE DESIGNATED A "BIKEWAY ROUTE" BY CITY COUNCIL.

2. PAVING AND BASE MATERIAL THICKNESS SHOWN ARE MINIMUM. STREET STRUCTURAL SECTION SHALL BE DESIGNED UTILIZING R-VALUE TESTS AND FLEXIBLE PAVEMENT DESIGN METHODS AS APPROVED BY CITY ENGINEER.

3. SIDEWALKS MAY BE CONSTRUCTED ADJACENT TO CURB ON MAJOR RESIDENTIAL AND SECONDARY STREETS WHERE APPROVED BY CITY PLANNING COMMISSION AND CITY COUNCIL. TREE PLANTING SHALL BE 5' TO 10' BACK OF SIDEWALK.

4. MODIFICATION OF STREET SECTION AND ELIMINATION OF SIDEWALK MAY BE APPROVED BY THE CITY PLANNING COMMISSION AND COUNCIL FOR HILLSIDE DEVELOPMENTS GIVING CONSIDERATION TO GROUND SLOPE, LOT FRONTAGE AND TRAFFIC PATTERNS.

APPENDIX 6-C

CITY OF CLOVERDALE STANDARD CONSTRUCTION DETAILS		
STREET IMPROVEMENT CONSTRUCTION DETAILS		
APPROVED Ab 17 5/1982	DATE Sept. 1975	DRAWING NUMBER 1 of 5

This drawing has been reduced half size

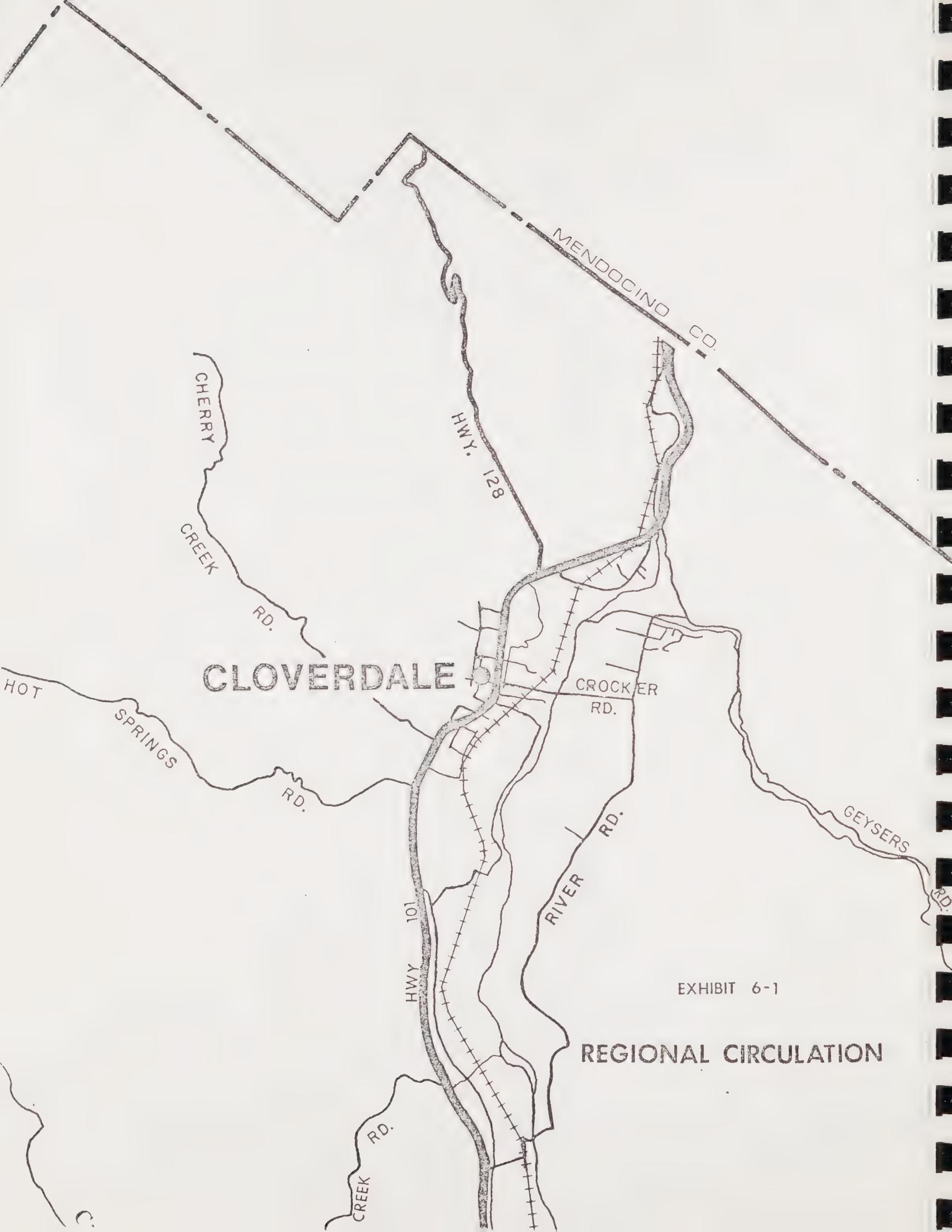


EXHIBIT 6-1

REGIONAL CIRCULATION

**GENERAL GUIDE ON**  
**TRIP END GENERATION RATES BY LAND USE**

TYPE OF LAND USE	TYPE OF DEVELOPMENT	NO. OF STUDIES	WEEKDAY TRIP END GENERATION RATES	
			AVERAGE*	RANGE
RESIDENTIAL	Subdivision	21	9.5 TE per Occupied Dwelling Unit	6.4 - 12.7
	Apartment	17	5.7 TE per Occupied Dwelling Unit	3.1 - 7.9
	Mobile Home Park	17	5.4 TE per Occupied Dwelling Unit	2.8 - 6.8
	Retirement Community	5	3.3 TE per Occupied Dwelling Unit	2.9 - 4.9
MAJOR INSTITUTION	College (4 yrs.)	5	2.2 TE per Student	1.9 - 3.3
	College (2 yrs.)	4	1.3 TE per Student	1.1 - 1.6
	High School	5	1.3 TE per Student	1.1 - 2.1
	Elementary School	9	1.0 TE per Student	0.7 - 1.2
	Hospital	8	9.4 TE per Bed	4.5 - 14.9
	Library	3	49.8 TE per Employee	37 - 82
COMMERCIAL	Government Office Bldg.	4	4.4 TE per 1000 Sq. ft. floor area	25 - 139
	Shopping Center (regional)	4	315 TE per Net Acre	149 - 671
	Shopping Center (neighborhood)	3	949 TE per Net Acre	800 - 1054
	Commercial Store (freestanding)	5	47 TE per 1000 Sq. ft. floor area	35 - 529
	Commercial Office Bldg.	10	15 TE per 1000 Sq. ft. floor area	8.8 - 23.5
	Medical Office	4	41 TE per Doctor	31 - 53
	Motel	10	10.1 TE per Occupied Unit	4.7 - 14.5
	Restaurant (Sit Down)	8	14 TE per Employee	9 - 22
	Restaurant (Fast Food)	3	75 TE per Employee	62 - 89
	Bank, Savings and Loan	6	43 TE per Employee	31 - 76
INDUSTRIAL	Service Station	2	57 TE per Employee	41 - 79
	Various Types of Industry	27	79 TE per Net Acre	9 - 350
	Industrial Park	4	64 TE per Gross Acre	52 - 140
	Warehouse	10	81 TE per Net Acre	28 - 256
	Mass Production	8	93 TE per Net Acre	38 - 191
	Administration	8	60 TE per Net Acre	28 - 229
	Research and Development	9	31 TE per Net Acre	20 - 127
	Specialty Production	7	39 TE per Net Acre	9 - 159
	Truck Terminals	4	56 TE per Net Acre	43 - 128
RECREATIONAL	Picnicking	25	0.8 TE per Total Acre	0.1 - 35
	Winery with Tasting Room	1	11 TE per Employee	-
	Golf Course (18-hole)	7	6.4 TE per Acre	2.5 - 10.9
			816 TE per Golf Course	237 - 1524
	Golf Course (9-hole)	1	176 TE per Golf Course	-
	Bowling Lane	1	33 TE per Lane	-
	Marina	3	4.8 TE per Berth	3.2 - 10
	Ocean Beaches	12	44 TE per 1,000 ft. of Beach	8.0 - 345
	Swimming	6	7.4 TE per Total Acre	1.7 - 20
	Hiking Trails	17	0.5 TE per Total Acre	0.1 - 10.3
	Overnight Camping	9	0.3 TE per Total Acre	0.1 - 12.2
	Tennis Club	4	27 TE per Tennis Court	20 - 51
MISC.	General Aviation (Airport)	9	9.8 TE per Acre	1.0 - 16.2
	Church	6	44 TE per Employee (Sunday)	30 - 191
	Car Wash	1	33 TE per Employee	-
	Transit Station (Suburban)	1	1.5 TE per Daily Patron	-

SOURCE: California Dept. of Transportation, District 4 Trip Ends Generation Research Counts.  
 Except for Fresno State College, all studies were taken within the San Francisco Bay Area.

NOTES: Average rates are weighted from the total number of studies for each type of development with ranges shown. They will be updated periodically as more studies are made. Average rate for developments with limited number of studies may be drastically changed.



7.0  
NOISE ELEMENT  
CITY OF CLOVERDALE



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7-B	SIMPLIFIED PROCEDURE FOR DETERMINING RAILROAD NOISE EXPOSURE CONTOURS
7-C	NOISE LIMITS AS SET BY THE CALIFORNIA VEHICLE CODE



## 7.0 OVERVIEW

Government Code Section 65302 (g) requires that a noise element be prepared as part of all city and county general plans. The focus of the noise element is to quantify the community noise environment in terms of noise exposure contours for both near and long term growth and traffic activity. Such noise exposure information serves as a guideline for use in the development of the land use element to achieve noise compatible land use and also to provide comparative baseline noise levels and noise source identification for local enforcement. Functionally the noise element is related most closely to the land use, housing, recreation, and circulation elements of the General Plan.

Perhaps the single major noise producer in the community is that of the present Highway 101/Cloverdale Bouleverb corridor along the north-south axis of the City. With the anticipated construction of the Freeway By-pass to the east of the downtown, a significant reduction in traffic congestion and the associated traffic noise of acceleration, deceleration and braking action will be evidenced. An in-depth analysis of the noise impacts associated with the By-pass has been prepared by the California Department of Transportation and is included as part of the Appendix to this section. Only the highlights and conclusions of that Noise Impact Study have been included in the following discussion of the City of Cloverdale's noise environment. Those wishing to study the detailed report should contact the offices of the City of Cloverdale.

## 7.1 GOAL STATEMENT

**Goal:** It shall be the goal of the City of Cloverdale to have a circulation system and pattern of land use developed in a manner which minimizes the impacts of noise pollution.

### Objectives:

- \* Establish noise standards that protect the public health, welfare, and safety.
- \* Establish land use policies that prevent the construction of residential development where noise levels are clearly unacceptable.
- \* Develop noise mitigation measures to be included when new residences are to be built in close proximity to major roadways.
- \* Require that environmental assessment documents for new projects include an analysis of existing and anticipated noise impacts if such are likely to be associated with the project(s).

## 7.2 DEFINITION OF TERMS

Decibel, dB: A unit for describing the amplitude of sound.

A-Weighted Sound Level: The sound pressure level in decibels as measured on a sound level meter using the A-weighting filter network. The A-weighting filter de-emphasizes the very low and very high frequency components of the sound in a manner similar to the response of the human ear and gives good correlation with subjective reactions to noise.

$L_{10}$ : The A-weighted sound level exceeded 10 percent of the sample time. Similarly,  $L_{50}$ ,  $L_{90}$ ,  $L_{99}$ , etc.

Equivalent Energy Level,  $L_{eq}$ : The sound level corresponding to a steady state sound level containing the same total energy as a time varying signal over a given sample period.  $L_{eq}$  is typically computed over 1, 8, and 24 hour sample periods.

CNEL: Community Noise Equivalent Level. The average equivalent A-weighted sound level during a 24-hour day, obtained after addition of five decibels to sound levels in the evening from 7 pm to 10 pm and after addition of 10 decibels to sound levels in the night before 7 am and after 10 pm.

$L_{dn}$ :

Day-Night Average Level. The average equivalent A-weighted sound level during a 24-hour day, obtained after addition of 10 decibels to sound levels in the night before 7 am and after 10 pm. Note: CNEL AND  $L_{dn}$  represent daily levels of noise exposure averaged on an annual basis, while  $L_{eq}$  represents the equivalent energy noise exposure for a shorter time period, typically one hour.

Noise  
Exposure  
Contours:

Lines drawn about a noise source indicating constant energy levels of noise exposure. CNEL and  $L_{dn}$  are the metrics utilized herein to describe community exposure to noise.

Ambient  
Noise Level:

The composite of noise from all sources near and far. In this context, the ambient noise level constitutes the normal or existing level of environmental noise at a given location.

Intrusive  
Noise:

That noise which intrudes over and above the existing ambient noise at a given location. The relative intrusiveness of a sound depends upon its amplitude, duration, frequency and time of occurrence, and tonal or informational content as well as the prevailing ambient noise level.

Equal  
Noisiness  
Zones:

Defined areas or regions of a community wherein the ambient noise levels are generally similar (within a range of 5 dB). Typically, all sites within any given noise source will be of comparable proximity to major noise sources.

### 7.3 OPTIMUM NOISE LEVELS

Table 7-1 provides a comparative illustration of the relative "loudness" associated with various common noise producers found in the daily environment. With this understood, the relationship of varying levels of exterior noise and their range of land use related sensitivities are further illustrated on Table 7-2. Each land use related activity has a suggested level of noise acceptability. In applying these ranges throughout the community, it is important to recognize that conventional construction techniques with some windows open result in a noise reduction of approximately 15 decibels. Similarly, conventional construction techniques with windows closed and with either forced air ventilation or air conditioning can result in a reduction of exterior noise levels by as much as 20+ decibels.

It is recommended that the maximum exterior noise level for all residential uses be  $L_{dn}$  65 with optimum noise levels being in the range of between  $L_{dn}$  45-55 dBA. Recognition of adopted community noise levels implies that acoustical analyses could be required in areas where the standard is or could be exceeded and that structural modifications for new development (more insulation, building orientation, etc.) could be necessary.

Optimum noise levels for residential and other land uses are listed on Table 7-3. The noise levels are based upon the H.U.D. acceptability ranges as previously noted (Table 7-2). These noise levels should be recognized and used as target optimums to which public policy should respond. The noise levels are presented as guidelines for noise control to be used to determine what development proposals may require noise mitigation measures.

Table 7-1  
Sound Levels (dBA) and Loudness of Illustrative Noises  
In Indoor and Outdoor Environments

dB(A)	OVER-ALL LEVEL	COMMUNITY (Outdoor)	HOME OR INDUSTRY (Indoor)	LOUDNESS (Human Judgment of Different Sound Levels)
130		Military Jet Aircraft Take-Off With After-Burner From Aircraft Carrier @ 50 Ft. (130)	Oxygen Torch (121)	120 dB(A) 32 Times As Loud
120	UNCOMFORTABLY LOUD	Turbo-Fan Aircraft @ Take-Off Power @ 200 Ft. (118)	Riveting Machine (110) Rock-N-Roll Band (108-114)	110 dB(A) 16 Times As Loud
110		Jet Flyover @ 1000 Ft. (103) Boeing 707, DC-8 @ 6080 Ft. Before Landing (106)		
100	VERY LOUD	Bell J-2A Helicopter @ 100 Ft. (100) Power Mower (96) Boeing 737, DC-9 @ 6080 Ft. Before Landing (97) Motorcycle @ 25 Ft. (90)	Newspaper Press (97)	100 dB(A) 8 Times As Loud
90		Car Wash @ 20 Ft. (89) Prop. Plane Flyover @ 1000 Ft. (88)	Food Blender (88) Milling Machine (85)	90 dB(A) 4 Times As Loud
80		Diesel Truck, 40 MPH @ 50 Ft. (84) Diesel Train, 45 MPH @ 100 Ft. (83)	Garbage Disposal (80)	80 dB(A) 2 Times As Loud
70	MODERATELY LOUD	High Urban Ambient Sound (80) Passenger Car, 65 MPH @ 25 Ft. (77) Freeway @ 50 Ft. from Pavement Edge, 10 A.M. (76±6)	Living Room Music (76) TV-Audio, Vacuum Cleaner (70)	70 dB(A)
60		Air Conditioning Unit @ 100 Ft. (60)	Cash Register @ 10 Ft. (65-70) Electric Typewriter @ 10 Ft. (64) Dishwasher (Rinse) @ 10 Ft. (60) Conversation (60)	60 dB(A) 1/2 As Loud
50	QUIET	Large Transformers @ 100 Ft. (50) Bird Calls (44) Lower Limit, Urban Ambient Sound (40)		50 dB(A) 1/4 As Loud
40	JUST AUDIBLE	[dB(A) Scale Interrupted]		40 dB(A) 1/8 As Loud
0	THRESHOLD OF HEARING			

Source: Melville C. Branch, et al., Outdoor Noise and the Metropolitan Environment, (Los Angeles: Department of City Planning, 1970), p. 2.

Table 7-2

**HUD Acceptability Ranges of Exterior Noise Level  
By Land Use Category**

LAND USE	AVERAGE NOISE LEVELS							
	Ldn or CNEL - Community Noise Equivalent Level							
	55	60	65	70	75	80	85	
	85		100		115			130
Residential- Single Family, Duplex, Mobile Homes								
Residential- Multiple Family								
Transient Lodging								
School Classrooms, Libraries, Churches								
Hospitals, Nursing Homes								
Auditoriums, Concert Halls, Music Shells								
Sports Arenas, Outdoor Spectator Sports								
Playgrounds, Neighborhood Parks								
Golf Courses, Riding Stables, Water Recreation, Cemeteries								
Office Buildings, Personal, Business and Professional								
Commercial- Retail, Movie Theaters, Restaurants								
Commercial- Wholesale, Some Retail, Industrial, Manufacturing, Utilities								
Manufacturing, Communications (Noise Sensitive)								
Livestock Farming, Animal Breeding								
Agriculture (Except Livestock), Mining, Fishing								
Public Right-of-way								
Extensive Natural Recreation Areas								

**CLEARLY ACCEPTABLE**

The noise exposure is such that the activities associated with the land use may be carried out with essentially no interference from aircraft noise. (Residential areas: both indoor and outdoor noise environments are pleasant.)

**NORMALLY ACCEPTABLE**

The noise exposure is great enough to be of some concern, but common building construction will make the indoor environment acceptable, even for sleeping quarters.

**NORMALLY UNACCEPTABLE**

The noise exposure is significantly more severe so that unusual and costly building construction is necessary to insure adequate performance of activities. (Residential areas: barriers must be erected between the site and prominent noise sources to make the outdoor environment tolerable.)

**CLEARLY UNACCEPTABLE**

The noise exposure is so severe that construction costs to make the indoor environment acceptable for performance of activities would be prohibitive. (Residential areas: the outdoor environment would be intolerable for normal residential use.)

**SOURCE:** U.S. Department of Housing and Urban Development, Aircraft Noise Impact, Planning Guidelines for Local Agencies, by Wilsey & Ham and Bolt, Beranek and Newman, 1972.

Table 7-3  
PERMISSIBLE EXTERIOR NOISE LEVELS  
CITY OF CLOVERDALE

LAND USE	MAXIMUM $L_{dn}$ dBA	OPTIMUM $L_{dn}$ dBA
Residential	65	45-55*
Institutional	65	55
Recreation	70	60
Office-Professional	75	65
General Commercial/Industrial	80	70

\* Single family 45; Multi-family 55.

#### 7.3.1 Noise Contours

The graphic representation of the level of noise encountered along the community's road system is expressed through noise contours. Just as topographic contours define points of equal elevation, noise contours are used to delineate the extent of constant energy levels of noise exposure in decibels. Relative to the noise environment throughout the City of Cloverdale noise contours have been prepared along the community's only major noise corridors -- that of the existing Highway 101/Cloverdale Boulevard alignment and that of the proposed Freeway Bypass. These two major arterial routes are the only ones with existing or anticipated traffic volumes of significant magnitude to generate excessive noise levels. Exhibits 7-1 and 7-2 illustrate the extent of the  $L_{dn}$  65 dBA or greater noise contour for each of these roadways for the years 1973 and 2000. Larger scale mapping of these noise contours (1" : 500') at 5 dB intervals are available for public perusal at the Cloverdale City Hall.

As the traffic volumes on Cloverdale's local streets are exceptionally low no precise delineation of noise contours was performed. Rather for arterial roadways with traffic volumes under 20,000 vehicles per day, the following general conditions are deemed to exist (see Appendix 7A and Data Reference #1, page 5):

$L_{dn}$  = 65 dBA within 100 feet of roadway as measured from the center of the outer most traffic lane.

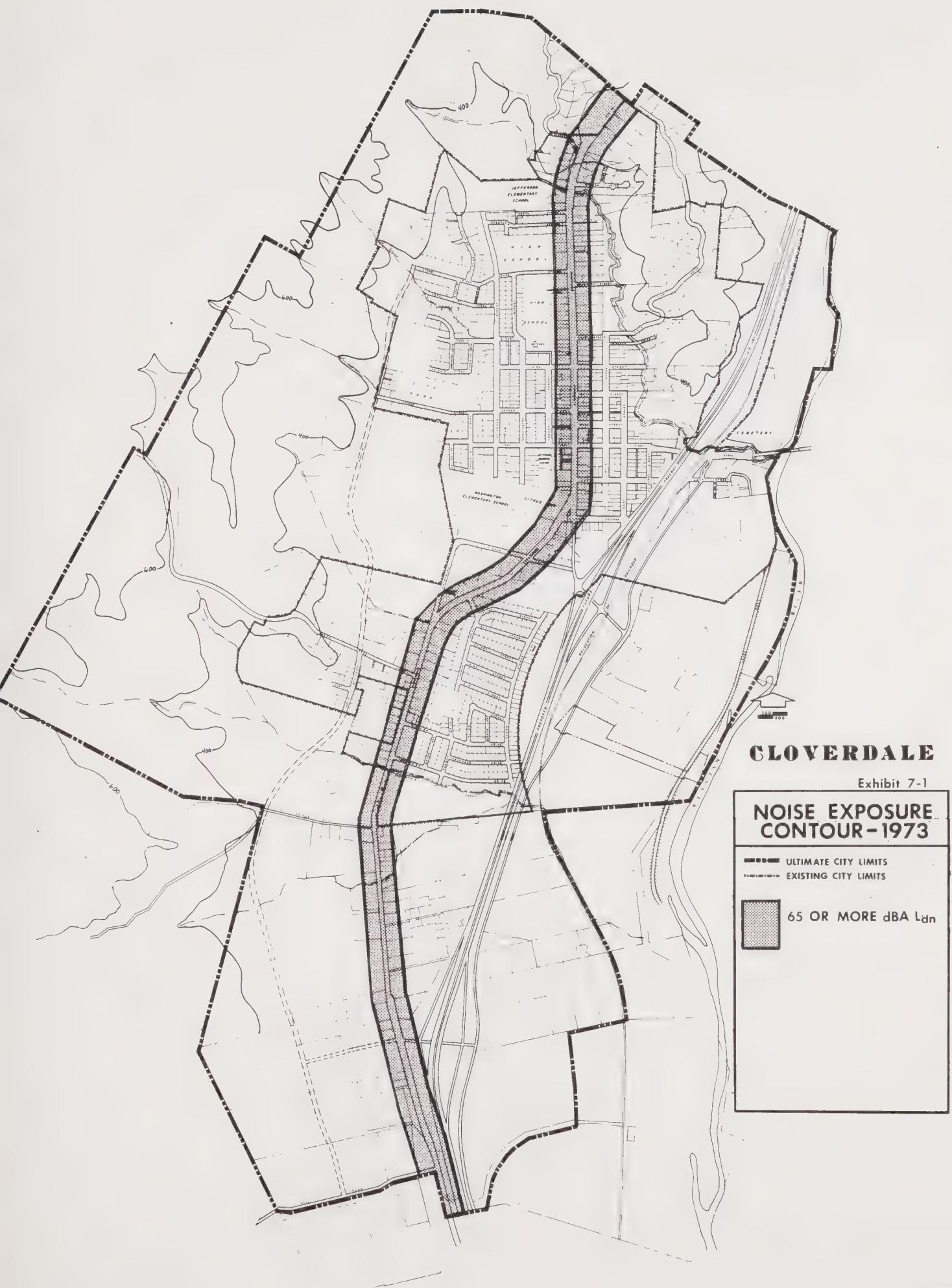
$L_{dn}$  = 60 dBA or less beyond 100 feet.

## 7.4 COMMUNITY NOISE ENVIRONMENT

Supplemental to the noise impact analysis performed by the California Department of Transportation on the proposed Freeway By-pass and the Sonoma County Planning Department basic community sound level readings were taken in the field at various locations throughout the City. An A-weighted sound meter was used to obtain the readings. Noise exposure contours in this element are given in terms of day-night average level ( $L_{dn}$ ) noise values, which divides the day into two time periods and provides for a weighted sound level adjustment for the nighttime period between 10 pm and 7 am in the morning. The  $L_{dn}$  is the noise measurement scale presently recommended by the Federal Environmental Protection Agency for use by all government agencies in describing environmental noise exposure, and all subsequent preemptive federal regulations in California will be in terms of  $L_{dn}$ .

The only identifiable noise impacts in the City of Cloverdale are those associated with the existing Highway 101/Cloverdale Boulevard corridor and that of the proposed Freeway Bypass alignment to the east of the community, where in both cases there is some degree of land use conflict associated with the excessive noise levels along these corridors. However, as illustrated by Exhibits 7-1 and 7-2, the eventual construction of the proposed Freeway Bypass to the east of the community will result in a substantial reduction of community noise exposure from highway traffic.

Accordingly, with the exception of either of these highway corridors, there are no present or anticipated detrimental noise impacts associated with the City's local road network upon the existing land use configuration or within the City's Urban





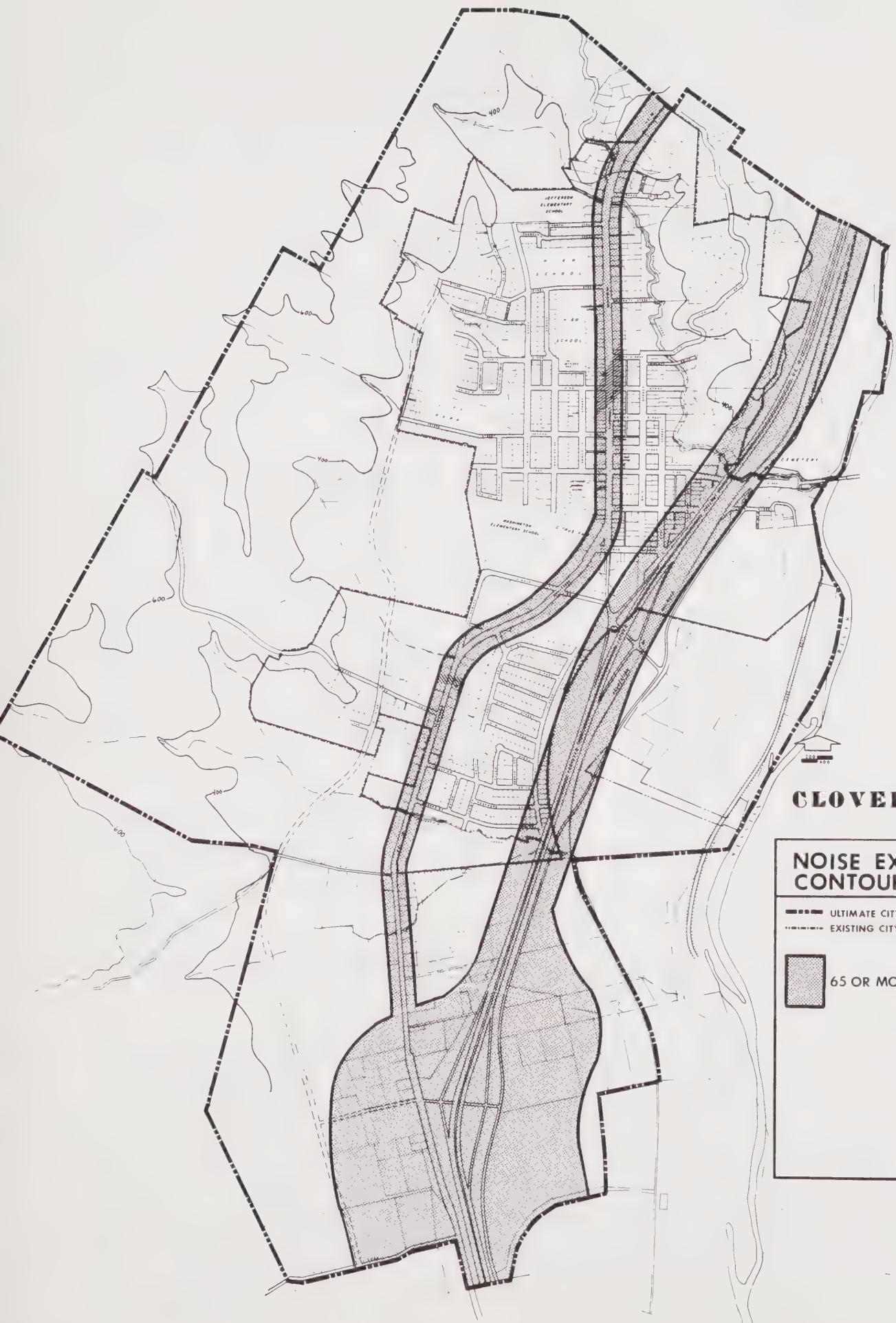
## CLOVERDALE

Exhibit 7-2

### NOISE EXPOSURE CONTOUR - 2000

— ULTIMATE CITY LIMITS  
- - - EXISTING CITY LIMITS

65 OR MORE dBA L<sub>dn</sub>





Expansion Area to the north, west, and south. Similarly, although no significant stationary noise source impacts were found within the community, only periodic noise monitoring throughout the City will insure that stationary noise producers do not exceed acceptable limits.

A more specific breakdown of noise impacts and land use relationships is provided by the following:

#### Existing Highway 101/Cloverdale Boulevard Corridor

This corridor registers average  $L_{dn}$  sound level readings calculated at between 70dBA to 75 dBA within the first 100 feet and 65 dBA at 200 feet from the highway centerline. Peak readings between 84 to 90 dBA may be expected along this corridor as a function of the relatively large volume of truck traffic (13%). The relationship of these readings to the chart in Tables 7-2 and 7-3 indicates that noise levels along this corridor are within the range of acceptability for most indoor commercial uses, offices, and light manufacturing and industrial uses, but unacceptable to the estimated 100-150 single and multi-family dwelling units along Cloverdale Boulevard. In addition, the ambient noise level to the shopper or pedestrian on the street in downtown Cloverdale is considerable at a curbside average sound level of  $L_{dn}$  75 dBA.

#### Future Freeway Bypass Alignment

The Freeway Bypass alignment to the east of town considerably reduces the noise impacts presently found along the existing Cloverdale Boulevard axis. However, as illustrated by Exhibit 7-2 the  $L_{dn}$  65 dBA contour along the proposed Bypass route extends approximately 270 feet on either side of the pavement edge. As a result several residences in the vicinity of the Clark Ave/Rosewood Drive and Clark Ave/Brookside Drive will fall within this high range limit of acceptability for exterior noise levels.

Similarly, noise levels in excess of  $L_{dn}$  65 dBA will be experienced along the westerly frontage of the Bypass route in the area extending from the vicinity of the Railroad Avenue interchange ramp north to First Street. As the Freeway through this area will be at an elevated grade, some mitigation from highway noise may be realized. Generally, the adjustment varies with the distance away from the roadway providing up to 6 dB reduction at 100 feet and diminishing to 0 dB at beyond 300 feet. It is recommended that thorough on-site noise readings be performed upon the construction of the Bypass to more accurately quantify the noise exposure along this frontage.

#### Cloverdale Boulevard After Bypass Construction

Upon completion of the Freeway Bypass the traffic volume along Cloverdale Boulevard is anticipated to drop by 40%-50% to an ADT of 9000 vehicles per day. As a result the noise environment along this axis through the heart of Cloverdale will improve considerably. For low speed highways (35 MPH) with traffic volumes below 20,000 vehicle per day an  $L_{dn}$  of less than 65 dB can be expected. However, since the percentage of truck traffic (both daytime and nighttime) that will continue to utilize Cloverdale Boulevard in the future is unknown at this time, updated noise readings should be taken in the future. Excessive daytime and nighttime heavy truck traffic above 4% will result in increased ambient noise levels.

#### Tarman and Riverfront Park Proposals

The Land Use Plan and the Recreation Plan show future park sites along the Freeway Bypass alignment to the east of the City. More specifically, the Riverfront Park proposal (Wright Property) falls outside the  $L_{dn}$  65 dBA contour and well within

the acceptable noise ranges as outlined by Tables 7-2 and 7-3.

However, the location of the proposed Tarman Neighborhood Park, which abuts the Freeway, falls within the high range of the normally acceptable and the low range of the normally unacceptable exterior noise levels (Table 7-2). Fortunately the anticipated construction of a noise sheilding landscaped berm along this stretch of the Bypass alignment by the State Department of Transportation should provide adequate noise mitigation for the area.

#### Collector Streets

Based upon the exceptionally low volume of existing and anticipated future traffic an  $L_{dn}$  of 65 dBA or less within the first 100 feet from the centerline of the City's local roadways can be expected. As a result, no adverse noise impacts are foreseen (with the land use configuration suggested by the Land Use Plan) that cannot be satisfactorially mitigated through conventional construction techniques.

#### Railroad Line Operations

Railroad line operations within the Cloverdale General Plan Area are confined to the activities of the Northwestern Pacific Railroad Company which owns and operates approximately 9600 feet of linear track along the eastern flank of the City. Present and future train traffic is anticipated to remain at four through freight movements per day. The track itself is classified as mainline track and is both welded and jointed. The railroad is restricted to a 30 mile per hour speed limit through the City. The through freight train movements are confined to the evening hours generally between 10:00 PM and 7:00 AM. During the daytime working hours one switching engine works the mill yards between the Preston area to the north and the Masonite mill to the south.

Utilizing the procedure developed by the State for estimating the noise impact of railroad line operations in terms of  $L_{dn}$  (see Appendix 7B), it is estimated that the 65 dB noise contour along the existing railroad alignment extends approximately 240 feet on either side of the track. Within this contour interval higher decibel readings of up to approximately 70 dB at 100 feet may be expected. It is estimated that approximately 35 residences along Clark Avenue and in the vicinity of Railroad Avenue/Mulberry Street/First Street may experience intermittent excessive exterior noise levels. However, the anticipated relocation of the railroad track between 300-500 feet to the east upon construction of the Freeway Bypass should effectively mitigate present railroad noise impacts upon residential land uses.

## 7.5 NOISE MITIGATION MEASURES

Noise mitigation measures generally involve three distinct areas of concern: Vehicle Controls, Roadway Controls, and Site Control.

### A. Vehicle Control

Studies have shown that the most objectionable feature of traffic noise is that produced by vehicles equipped with illegal or faulty exhaust systems. In addition, such vehicles are often operated in such a manner that tire squeal and excessively loud exhaust noise is produced. Relative to this type of noise pollution there exist a number of vehicle noise regulations that can be enforced by local authorities and the Highway Patrol: Sections 23130, 23130.5, 27150, 27151, and 38275 of the California Vehicle Code.

### B. Roadway Control

Roadway control requires engineering response to vehicle noise through the construction of earthen or concrete berms, the construction of sound walls, and the various use of roadside landscaping as a noise mitigation measure. A noise sheilding berm is expected to be constructed along a portion of the proposed Freeway Bypass route where it passes the Tarmam neighborhood at grade elevation. As such, much of the noise generated by south-bound traffic - except truck exhausts - will be attenuated.

### C. Site Control

Since residential land use is considered most noise sensitive, proper integration of site planning and design techniques will serve to enhance and maintain the environmental quality through on-site noise mitigation provisions. More specifically, site control for new developments may include the following:

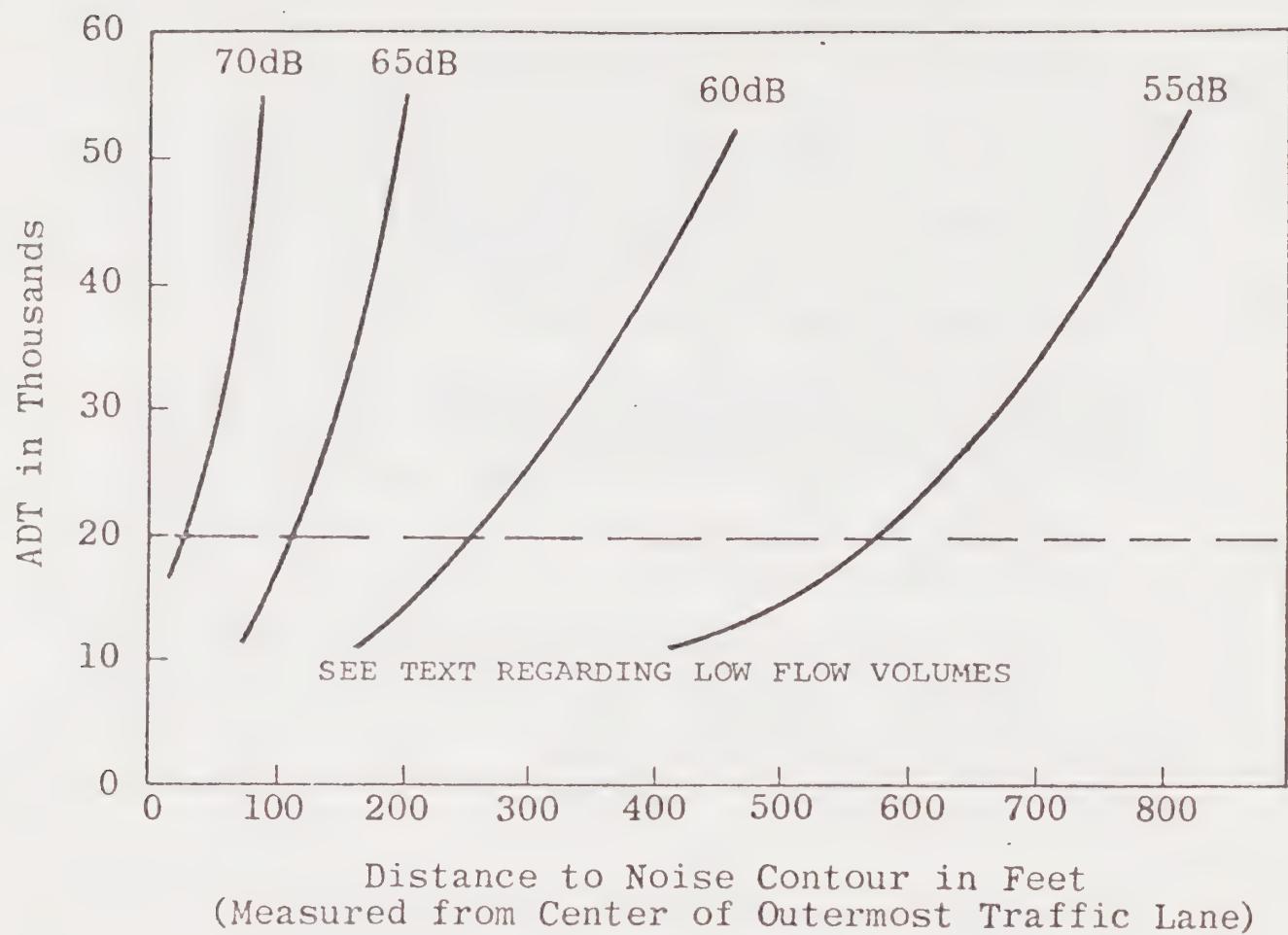
- Require noise element referral during the Environmental Review period of a proposed project to identify any potential conflicts.
- Encourage adequate building setbacks where development proposals may encroach into noise impacted corridors.
- Encourage (through Design Review procedure) new building orientation away from known noise sources.
- Require adherence to the noise insulation standards as defined in Title 25 of the California Administrative Code, to prevent interior sound levels above 45 dB in residential structures. Most conventional residential construction techniques provide between 15dB to 20 dB noise reduction from exterior to interior noise levels.
- Carefully consider noise impacts associated with proposed road widenings and/or increases in local speed limits. A 10 to 15 mile per hour increase in automobile travel speed may result in a doubling of the perceived level of noise to the listener. Road improvements that accommodate greater traffic volumes at constant speeds have a similar effect upon the noise environment.

#### D. NOISE ORDINANCE

While the Noise Element identifies the extent of noise pollution along the City's road system, railway lines, and the associated land use sensitivities along these transportation corridors it is impossible to identify those infrequent sources of annoying noise that may occur at intermittent intervals within the community. More specifically these local sources of annoying noise include noise from loud or illegal mufflers, motorcycles, loud parties or stereos, public events, barking dogs, power tools, etc. These irritation type of noise occurrences are best addressed through the development of a community Noise Ordinance. Such ordinances can be tailored to the specific needs of the community and can provide a remedy and legal recourse to such transient noise occurrences as mentioned above.

## 7.6 DATA REFERENCE

1. Estimation of Community Noise Exposure in Terms of Day-Night Average Level Noise Contours, Jack W. Swing, Office of Noise Control, California Department of Health, May 1975.
2. Noise Element, Sonoma County General Plan
3. Guidelines for the Preparation and Content of Noise Elements of the General Plan, Office of Noise Control, California Department of Health, Berkeley, California, In coordination with the Office of Planning and Research, February, 1976.
4. Noise Impact Study - Proposed bypass of Route 101 in the City of Cloverdale from Hiatt Road to Preston Overhead in Sonoma County (04219 - 121451), California Division of Highways, District 4, Environmental Studies Section, January 1973.
5. Jim Drake, Trainmaster, Northwestern Pacific Railroad Company, Santa Rosa Office.



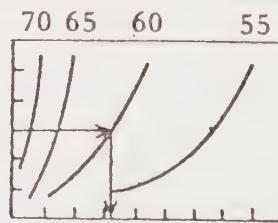
L <sub>dn</sub> Noise Contours for Low Speed Arterials	
Traffic Flow Parameters	Example
Day Night Split: 87% - 13%	
Percent Heavy Trucks: 4%	
Typical Speeds: 35-45 mph	
Roadway Configuration: 2 or 4 lanes	 <p>70 65 60 55</p> <p>30,000</p> <p>ADT = 30,000 yields: 60dB at 330 feet</p>

Figure 1. TRAFFIC NOISE NOMOGRAM FOR LOW SPEED ARTERIALS.

# Simplified Procedure for Developing Railroad Noise Exposure Contours

Jack W. Swing, State of California, Berkeley, California

Railroad line operations are one source of community noise which should be included in community noise planning. A simplified procedure is presented for estimating the noise impact of such operations, in terms of the Day-Night Average Sound Level ( $L_{dn}$ ).

Current efforts in community planning are paying increased attention to the noise environment of residents, particularly in California where communities are now required by State Law [Senate Bill 691, State Code 65302(g)] to include noise as a specific element of their general plans. To assist city planners in complying with the requirements of this law, which includes quantitative descriptions of the noise environment created by ground transportation noise sources, a number of simplified nomograms have been developed. Based on rigorous analytical procedures and computer augmented techniques they can be easily used by persons untrained in acoustics and they yield a good first approximation of noise exposure for specific sources.

The method presented here for on-line railroad operations is derived from a study performed by Wyle Research for the Southern Pacific Transportation Company in conjunction with the Atchison Topeka and Santa Fe and Union Pacific Railway Companies and the Association of American Railroads.<sup>1</sup>

This method presents a simplified procedure for the estimation of noise impact created by on-line railroad operations in terms of Day-Night Average Level ( $L_{dn}$ ) noise contours.  $L_{dn}$  noise contours account for the A-weighted noise magnitude of individual occurrences, as well as the time duration of each event. Additionally, they account for the total number of single event occurrences during the 24-hour day. They also weight these occurrences relative to the time of day in which they occur to account for increased human sensitivity to noise at night.

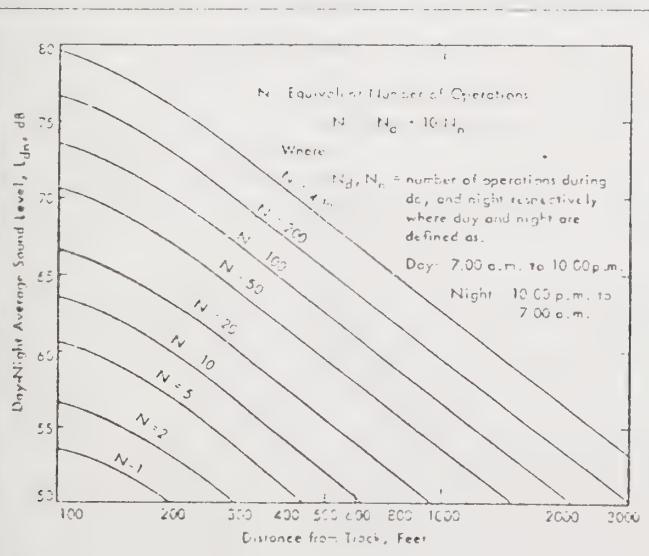


Figure 1 - Distances to day-night average level ( $L_{dn}$ ) noise contours for railroad line operations.

The procedure consists of first determining the equivalent number of operations  $N$  which is equal to the actual number which occurs during the DAY time period (7: a.m. to 10:00 p.m.) plus 10 times the number occurring during the NIGHT time period (10:00 p.m. to 7:00 a.m.). The factor of 10 relates to increased noise sensitivity during the NIGHT time period. A graphical look-up chart is provided such that the distance to a desired contour value (i.e., 65, 70, 75 dB) may be read directly by entering the chart at the calculated value of equivalent operations,  $N$ .

Finally, adjustment factors may be included to account for increased noise levels (and hence, broader reaching noise contours) resulting from tight radius curves, switching frogs, unwelded rail, and bridgework.

## Directions for Usage

### Step 1 — Equivalent Number of Operations

Calculate equivalent number of on-line operations from the formula:

$$N = N_d + 10 N_n$$

where:

$N$  = equivalent number of operations

$N_d$  = number of daytime operations occurring between 7:00 a.m. and 10:00 p.m.

$N_n$  = number of nighttime operations occurring between 10:00 p.m. and 7:00 a.m.

### Step 2 — Distance to $L_{dn}$ Contour Values

To find the distance to a given contour value, enter Figure 1 at this value on the left vertical axis and move horizontally to the right until the curve corresponding to the desired value of equivalent number of operations is reached. Move vertically down from that point and read the distance in feet from the track to this contour value. Contour values so determined do not take into account miscellaneous track irregularities which may increase noise generation at specific locations.

Table 1 - Adjustments to  $L_{dn}$  Noise Contours

Variables Affecting Noise Output	Correction to Desired $L_{dn}$ Value, dB
1. Passenger trains only ..... (If combination of passenger and freight — assume all freight)	-1
2. Presence of helper engines:	
a. Level grade or descending grade .....	0
b. Ascending grade .....	+2
3. Mainline welded or jointed track .....	0
4. Low speed classified jointed track .....	+4
5. Presence of switching frogs or grade crossings .....	+4
6. Tight radius curve:	
a. Radius less than 600 feet .....	+4
b. Radius 600 to 900 feet .....	+0.5
c. Radius greater than 900 feet .....	0
7. Presence of bridgework:	
a. Light steel trestle .....	+14
b. Heavy steel trestle .....	+5
c. Concrete structure .....	0

### Step 3 — Additional Factors Affecting Noise Output

Table 1 summarizes the net effect of these additional variables on the  $L_{10}$  noise contours produced by railroad line operations. To include these factors in the analysis, derive an "adjusted contour value" by subtracting the adjustment value determined from Table 1 from the value of the contour desired. (In the case of multiple occurrence of the items shown in this Table, only the larger of the adjustment values should be used.) Enter Figure 1 at the new adjusted contour value to obtain the distance to the originally-desired contour value. (This procedure effectively moves a given contour farther from the tracks to account for the increased noise output.)

#### Example

Given: Passenger and Freight Operations activity over a segment of north-south welded mainline track as summarized in the table below:

Type/Direction	Number of Daily Operations		Desired Contour Value, dB	Adjustment Factor — from Table 1	Adjusted Contour Value, dB	Distance to Desired Contour Value, feet
	Day	Night				
Freight - Northbound	6	2	70	+4	66	220
Freight - Southbound	4	1	65	+4	61	400
Passenger - Northbound	3	0	60	+4	56	730
Passenger - Southbound	3	0				
Total	16	3				

The equivalent number of operations  $N$  are calculated as:

$$N = N_D + 10N_N = 16 + 10 \times 3 = 46^*$$

Assume we wish to compute the distances to the 70, 65, and 60 dB contours.

Given  $N = 46$ , these distances are determined from Figure 1 and shown below.

Contour Value, dB	Distance from Tracks, feet
70	115
65	250
60	450

If we now wish to include the effects of track irregularities over certain segments on the line, for example, presence of a switching frog, the following adjustment are made: Value of adjustment from Table 1 = +4 dB (Thus the switching frog will increase the noise level by 4 dB and extend the breadth of the contours). The effect of the increased noise level at the point of the switching frog on the contour is summarized below.

Desired Contour Value, dB	Adjustment Factor — from Table 1	Adjusted Contour Value, dB	Distance to Desired Contour Value, feet
70	+4	66	220
65	+4	61	400
60	+4	56	730

#### References

1. Swing, J. W. and Pies, D. P., "Assessment of Noise Environments Around Railroad Operations," Wyle Laboratories Research Report No. WCR 73-5, July 1973.

- Note that per direction given in Table 1 under "Passenger Trains Only," when the traffic consists of both passenger and freight operations, all operations should be treated as freight operations.

Noise limits as set by the California Vehicle Code:

Section 23130. Noise Limits

a. No person shall operate either a motor vehicle or combination of vehicles of a type subject to registration at any time or under any condition of grade, load, acceleration or deceleration in such a manner as to exceed the following noise limit for the category of motor vehicle based on a distance of 50 feet from the center of the lane of travel within the speed limits specified in this section.

	Speed limit of 35 mph or less	Speed limit of more than 35 mph
1. Any motor vehicle with a manufacturer's gross vehicle weight rating of 6,000 pounds or more, any combination of vehicles towed by such motor vehicle, and any motorcycle other than a motor-driven cycle:		
a. Before January 1, 1973		
..... [1]	88 dbA	90 dbA
b. On and after January 1, 1973.....	86 dbA	90 dbA
2. Any other motor vehicle and any combination of vehicles towed by such motor vehicle	82 dbA	86 dbA

Section 27160. Motor Vehicle Noise Limits

a. No person shall sell or offer for sale a new motor vehicle which produces a maximum noise exceeding the following noise limit at a distance of 50 feet from the centerline of travel under test procedures established by the department:

1. Any motorcycle manufactured before January 1, 1970.....	92 dbA
2. Any motorcycle, other than a motor-driven cycle, manufactured on or after January 1, 1970, and before January 1, 1973.....	88 dbA
3. Any motorcycle, other than a motor-driven cycle, manufactured on or after January 1, 1973.....	86 dbA
4. Any motor vehicle with a gross vehicle weight rating of 6,000 pounds or more manufactured on or after January 1, 1968 and before January 1, 1973.....	88 dbA

5. Any motor vehicle with a gross vehicle weight rating of 6,000 pounds or more manufactured on or after January 1, 1973.....	86 dbA
6. Any other motor vehicle manufactured on or after January 1, 1968 and before January 1, 1973.....	86 dbA
7. Any other motor vehicle manufactured after January 1, 1973.....	84 dbA

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